

Federal Operating Permit Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	O'Sullivan Films, Inc.
Facility Name:	O'Sullivan Films, Inc.
Facility Location:	1944 Valley Avenue Winchester, Virginia
Registration Number:	80333
Permit Number:	VRO80333

July 1, 2006

Effective Date

June 30, 2011

Expiration Date

R. Bradley Chewning

Regional Director, Valley Region

June 28, 2006

Signature Date

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Permit Conditions, 86 pages

Attachments A and B (Compliance Assurance Monitoring (CAM) Plans)

40 CFR 63 Subpart KK

40 CFR 63 Subpart JJJJ

40 CRR 63 Subpart DDDDD

40 CFR 63 Subpart EEEE

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I. Facility Information

Permittee

O'Sullivan Films, Inc.
1944 Valley Avenue
Winchester, Virginia 22604

Responsible Official

Robert Dragon
Vice President of Operations
or
Christopher Hahn
Director, Technical Services and Process Engineering

Facility

O'Sullivan Films, Inc.
1944 Valley Avenue
Winchester, Virginia 22604

Contact person

Kevin Burkett (540) 667-6666, ext. 274
Environmental Manager

Dan Agee (540) 667-6666, ext. 336
E H & S Manager

County-Plant Identification Number: 51-840-0060

Facility Description: NAICS numbers 326130 (Laminated plastics sheet manufacturing) and 326113 (Polyvinyl film and unlaminated sheet manufacturing)

The O'Sullivan Films, Inc. facility in Winchester conducts calendering, laminating, printing, and painting of performance polymers and engineered films to produce plastic sheeting used primarily by the automotive industry.

II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
BLR1	1	Peabody Engineering/E. Keeler Co. Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1951 (coal to NG/No. 2 oil firing conversion - 1968)	36 MMBtu/hr	-	-	-	-
BLR2	2	Cleaver Brooks, Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1972	16 MMBtu/hr	-	-	-	-
PH1	3	American Hydrotherm Calender No. 3 1966 Hot Oil Generator, installed 1988	16.8 MMBtu/hr	-	-	-	April 21, 2005
Painting Operations							
PK	4 or 5	Paint kitchen	-	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1 or CNTRL2	VOC, VHAP	April 21, 2005
PLAB	49-51	Paint testing laboratory	-				April 21, 2005
PL2	4	Paint Line comprised of spray booths 1 & 2 (airless air assisted spider-arm applicator on continuous vinyl web), gravure station, flash-off zones and drying ovens (Nordson)	-	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	April 21, 2005

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
PL3	4	Paint Line comprised of spray booths 1 & 2 (airless air assisted spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens	-	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	April 21, 2005
PL4	5	Paint Line comprised of spray booths 1 & 2 (airless air assisted spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens	~5000 linear ft vinyl /hr	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL2	VOC, VHAP	April 21, 2005
Laminating Operations							
LAM1	49	Lembo Laminator (including embossing and adhesive materialmixing) (water-based low-VOC adhesives and primer applied by roller)	-	-	-	-	April 21, 2005
LAM2	7 - 10	Laminator (including embossing and adhesive material mixing) (water-based low-VOC adhesives and primer applied by roller)	15 m vinyl/min	-	-	-	-
LAM3	4	Kawakami Laminator (including adhesive material mixing) (solvent-based adhesives applied by doctor blade and/or roller with capabilities for using water-based low-VOC adhesives and primer)	20 m vinyl/min	Smith Engineering Company regenerative thermal oxidizer (RTO)	CNTRL1	VOC, VHAP	April 21, 2005
LAM4	12	Inta-Rota Laminator (including adhesive material mixing) (solvent-based adhesives applied by roller with capabilities for using water-based low-VOC adhesives and primer)	20 m vinyl/min	-	-	-	April 21, 2005

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Rotogravure Printing Operations							
PNTKTN2		Paint kitchen for Lembo (printing ink mixing)	-	-	-	VOC, VHAP	-
LEMB	16 - 19	Lembo 4-Station Rotogravure Printing Press (vinyl substrate) with drying ovens	-	-	-	-	-
Calendering Operations							
CAL1	20	Farrel Calender	≥ 100 pounds/hr	-	-	-	-
CALMIX1a	N/A	Pre-blender for Calender 1 (raw material mixing equipment)	≥ 100 pounds/hr	Osprey baghouse (vents indoors)	CNTRL3	PM, PM-10	-
CALMIX1b	N/A	Banbury mixer for Calender 1 (raw material mixing equipment)	≥ 100 pounds/hr	Farr baghouse (vents indoors)	CNTRL4	PM, PM-10	-
CAL2	21 - 22	Nippon Roll Calender	≥ 100 pounds/hr	-	-	-	December 22, 2004
CALMIX2a	N/A	Banbury mixer for Calender 2 (raw materials mixing)	≥ 100 pounds/hr	Osprey fabric filter (2 units) (vents indoors)	CNTRL 12	PM, PM-10	December 22, 2004
CALMIX2b1	N/A	Pre-blender for Calender 2 (raw material mixing equipment)	≥ 100 pounds/hr	Osprey fabric filter (vents indoors)	CNTRL6	PM, PM-10	December 22, 2004
CALMIX2b2	N/A	Pre-blender for Calender 2 (raw material mixing equipment)	≥ 100 pounds/hr	Osprey fabric filter (vents indoors)	CNTRL7	PM, PM-10	December 22, 2004
CAL3	24	Kraffanlagen Heidelberg Calender	≥ 100 pounds/hr	-	-	-	-
CALMIX3a	N/A	Pre-blender for Calender 3 (raw material mixing equipment)	≥ 100 pounds/hr	Osprey baghouse (3 units) (vents indoors)	CNTRL8	PM, PM-10	-

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
CALMIX3b	N/A	Banbury mixer for Calender 3 (raw material mixing equipment)	≥ 100 pounds/hr	Osprey baghouse (vents indoors)	CNTRL9	PM, PM-10	-
CALMIX3c	N/A	Banbury mixer for Calender 3 (raw material mixing equipment)	~10,000 lb/hr	Osprey baghouse (vents indoors)	CNTRL10	PM, PM-10	-
Post Embossing Operations							
PEMB	50-51	Post Embosser (includes embosser and optional water-based adhesive back coater and slitter)	-	-	-	VOC, HAPs	-
Materials Handling Operations							
RES-CONV1	25 - 40	Bulk resin transfer and storage (pneumatic) for Calenders 1 & 2 (includes rail car and tank truck unloading to bulk silos and transfer from bulk silos to day bins and mixing stations)	~10 tons/hr	Flex-Kleen baghouse (Stacks 25 - 39); Pacific Engineering Company baghouse (Stack 40)	CNTRL12 - CNTRL26	PM, PM-10	-
RES-CONV2	41 - 48	Bulk resin transfer and storage (pneumatic) for Calender 3 (includes rail car and tank truck unloading to bulk silos and transfer from bulk silos to day bins and mixing stations)	~10 tons/hr	Pacific Engineering Company baghouse	CNTRL27 - CNTRL35	PM, PM-10	-
Storage Tanks							
TNK-P21	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-P22	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-P23	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-P24	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-

Emission Unit ID	Stack ID	Emission Unit Description	*Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
TNK-P25	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-P26	N/A	Bulk storage tank for plasticizer	15,000 gal	-	-	-	-
TNK-TC21	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-TC22	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-TC23	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-TC24	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-TC25	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-
TNK-TC26	N/A	Bulk storage tank for topcoat	15,000 gal	-	-	-	-

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

III. Fuel Burning Equipment Requirements - (Emission unit ID# BLR1, BLR2, and PH1)

A. Limitations

1. The approved fuels for the boilers and hot oil generator (BLR1, BLR2, and PH1) are natural gas and distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396 "Standard Specification for Fuel Oils". A change in the fuels may require a permit to modify and operate.

(9 VAC 5-80-110 and Condition 18 of 4/21/05 Permit)

2. Particulate emissions from each boiler (BLR1 and BLR2) shall not exceed the limit derived as follows:

$$E = 0.39H$$

Where

E = Particulate emissions in lbs/hr

H = Actual heat input (MMBtu/hr)

(9 VAC 5-40-900 B and 9 VAC 5-80-110)

3. Total sulfur dioxide emissions from the boilers (BLR1 and BLR2) shall not exceed 137 lbs/hr, on a combined basis.

(9 VAC 5-40-930 A and 9 VAC 5-80-110)

4. Emissions from the operation of the hot oil generator (PH1) shall not exceed the limits specified below:

PM-10	0.13 lbs/hr	0.56 tons/yr
Sulfur Dioxide	8.74 lbs/hr	38.29 tons/yr
Carbon Monoxide	1.41 lbs/hr	6.18 tons/yr
Nitrogen Dioxide	2.43 lbs/hr	10.66 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits.

(9 VAC 5-50-260 and Condition 23 of 4/21/05 Permit)

5. Visible emissions from each boiler (BLR1 and BLR2) stack shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity. Failure to meet the opacity limit due to the presence of water vapor shall not be a violation.
(9 VAC 5-40-940 B and 9 VAC 5-80-110)
6. Visible emissions from the **hot oil generator (PH1)** shall not exceed 10% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A).
(9 VAC 5-80-110 and Condition 25 of 4/21/05 Permit)
7. Boiler (BLR1 and BLR2) emissions shall be controlled by proper operation and maintenance. Boiler (BLR1 and BLR2) operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall have available good written operating procedures and a maintenance schedule for each boiler (BLR1 and BLR2).
(9 VAC 5-20-180 and 9 VAC 5-80-110)
8. The distillate oil shall meet the specifications below:

DISTILLATE OIL which meets ASTM D396 specifications for numbers 1 or 2 fuel oil:

Maximum sulfur content per shipment: 0.5%

(9 VAC 5-80-110 and Condition 20 of 4/21/05 Permit)
9. The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel supplier certification shall include the following:
 - a. The name of the fuel supplier;
 - b. The date on which the distillate oil was received;
 - c. The volume of distillate oil delivered in the shipment;
 - d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications for numbers 1 or 2 fuel oil; and
 - e. The sulfur content of the distillate oil.

(9 VAC 5-80-110 and Condition 21 of 4/21/05 Permit)

10. Except where this permit is more restrictive, the boilers (BLR1 and BLR2) and the process heater (PH1) shall comply with the requirements of 40 CFR Part 63 Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boiler and Process Heaters) no later than September 13, 2007.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63 Subpart DDDDD)

B. Monitoring and Recordkeeping

1. The permittee shall perform weekly inspections of the two boiler stacks (BLR1 and BLR2) and of the hot oil generator stack (PH1) when burning distillate fuel in the respective unit, to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (reference 40 CFR 60, Appendix A) visible emissions evaluation (VEE) shall be conducted. The VEE shall be conducted for a minimum period of six (6) minutes. If the six-minute average opacity exceeds the applicable limit, the observation period shall continue until a total of sixty (60) minutes of observation have been completed.

(9 VAC 5-80-110)

2. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

- a. Fuel purchase records, including type of fuel purchased;
- b. Fuel supplier certifications for oil shipments purchased, indicating the sulfur content by weight per shipment;
- c. The monthly and annual throughput of natural gas (in million cubic feet) and distillate oil (in 1000 gallons) for the two boilers (BLR1 and BLR2) and the hot oil generator (PH1). The annual throughput shall be calculated monthly as the sum of each consecutive 12-month period;
- d. Weekly inspection results of the boiler (BLR1 and BLR2) and hot oil generator (PH1) stacks (when burning distillate oil), to include:

(1) The date of each inspection and the initials of the inspector;

(2) Whether or not visible emissions were observed; and

- (3) EPA Method 9 (40 CFR 60, Appendix A) observation record, if applicable;
- e. Boiler (BLR1 and BLR2) and hot oil generator (PH1) operator training records, including the dates of training and names of trainees;
 - f. Records of maintenance performed on the boilers (BLR1 and BLR2) and the hot oil generator (PH1);
 - g. Monthly emissions calculations for emissions from the hot oil generator (PH1) stack using calculation methods approved by the [Director, Valley Region](#) to verify compliance with the ton/yr emissions limitations in Condition III.A.4.

(9 VAC 5-80-110 and Condition 27 of 4/21/05 Permit)

3. The permittee shall have available good written operating procedures and a maintenance schedule for each boiler (BLR1 and BLR2) and the hot oil generator (PH1). These procedures shall be based on the manufacturer's recommendations, at minimum. These records shall be kept on site and made available for inspection by the DEQ.

(9 VAC 5-80-110)

C. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.

(9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
PM/PM-10	EPA Methods 5, 17

Pollutant	Test Method (40 CFR Part 60, Appendix A)
SO ₂	EPA Method 6
CO	EPA Method 10
NO _x	EPA Method 7
Visible Emissions	EPA Method 9

(9 VAC 5-80-110)

IV. Painting Operations Requirements - (Emission unit ID# PK, PLAB, PL2 - PL4)

A. Limitations

1. Volatile organic compound (VOC) emissions from Paint Lines 2 and 3 (PL2 - PL3) shall be controlled by a capture system having an efficiency of no less than 80% and a regenerative thermal oxidizer (RTO). The RTO shall be provided with adequate access for inspection and shall be in operation when Paint Line 2 or Paint Line 3 is operating.
(9 VAC 5-80-110 and Condition 5 of 4/21/05 Permit)
2. VOC emissions from the Paint Kitchen (PK) shall be controlled by a permanent total enclosure and a RTO having a control efficiency of at least 95.0%. The RTO shall be provided with adequate access for inspection and shall be in operation when the Paint Kitchen (PK) is operating.
(9 VAC 5-80-110 and Condition 7 of 4/21/05 Permit)
3. The RTO serving Paint Lines 2 and 3 (PL2 – PL3) shall maintain a control efficiency for VOC of no less than 95.0 percent on a mass basis.
(9 VAC 5-80-110 and Condition 8 of 4/21/05 Permit)
4. VOC emissions from Paint Line 4 (PL4) shall be controlled by a permanent total enclosure and a RTO. The RTO shall be provided with adequate access for inspection and shall be in operation when Paint Line 4 (PL4) is operating.
(9 VAC 5-80-110 and Condition 6 of 4/21/05 Permit)
5. The RTO serving Paint Line 4 (PL4) shall maintain a control efficiency for VOC of no less than 98.6 percent on a mass basis.
(9 VAC 5-80-110 and Condition 9 of 4/21/05 Permit)
6. The total enclosures required in Conditions IV.A.2 and IV.A.4 shall meet the following criteria:
 - a. Any natural draft openings shall be at least four equivalent opening diameters from each VOC emitting point;
 - b. The total area of all natural draft openings shall not exceed five percent of the surface area of the enclosure's four walls, floor, and ceiling;
 - c. The average facial velocity of air through the natural draft openings shall be at least 200 feet per minute and the direction of flow shall be into the enclosure;

- d. All access doors and windows shall be closed during routine operation of the enclosed equipment.
- e. All of the exhaust gases from the enclosure shall be directed to the thermal incinerator.

(9 VAC 5-80-110 and Condition 10 of 4/21/05 Permit)

- 7. The RTO controlling Paint Lines 2 and 3 (PL2 - PL3) shall maintain a minimum combustion zone temperature of 1475°F (or the temperature determined during performance testing according to Condition X.D.3 to correspond to at least 95.0% destruction efficiency) and a residence time of at least 0.5 second. The minimum combustion zone temperature shall be calculated as a three-hour average. Details concerning the method of calculating the three-hour average combustion zone temperature shall be arranged with the Director, Valley Region.

(9 VAC 5-80-110 and Condition 11 of 4/21/05 Permit)

- 8. The RTO controlling Paint Line 4 shall maintain a minimum combustion zone temperature of 1550°F (or the temperature determined during performance testing according to Condition X.D.3 to correspond to at least 98.6% destruction efficiency) and a residence time of at least 1.0 second. The minimum combustion zone temperature shall be calculated as a three-hour average. Details concerning the method of calculating the three-hour average combustion zone temperature shall be arranged with the Director, Valley Region.

(9 VAC 5-80-110 and Condition 12 of 4/21/05 Permit)

- 9. Paint Line 4 (PL4) shall operate no more than 7,140 hours per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 17 of 4/21/05 Permit)

- 10. The approved fuels for combustion in the RTOs are natural gas and distillate oil. Use of a different fuel may require a permit to modify and operate.

(9 VAC 5-80-110 and Condition 19 of 4/21/05 Permit)

- 11. VOC emissions shall not exceed the limits specified below:

Paint Lines 2 and 3 and Paint Kitchen (PL2 - PL4, PK)	998 tpy
Paint Line 4 (PL4)	39 tpy
Paint Laboratory (PLAB)	30 tpy

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Condition IV.B.2.

(9 VAC 5-80-110 and Condition 24 of 4/21/05 Permit)

12. Visible emissions from each RTO shall not exceed five percent (5%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

(9 VAC 5-50-80, 9 VAC 5-80-110 and Condition 26 of 4/21/05 Permit)

13. The permittee shall develop a Quality Improvement Plan (QIP) for Paint Line 4 (PL4) according to 40 CFR 64.8 if more than six excursions from the indicator range specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment A) occur within a semi-annual period. An excursion shall be defined as any three-hour period of operation during which the average combustion zone temperature is outside of the indicator range specified in the CAM Plan. Semi-annual periods are as indicated by reporting requirements in Condition XV.C.3.

(9 VAC 5-80-110 and 40 CFR 64.8)

14. The permittee shall develop a Quality Improvement Plan (QIP) for Paint Lines 2 & 3 and the Paint Kitchen (PL2 & PL3 and PK) according to 40 CFR 64.8 if more than one excursion from the indicator range specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment B) occurs within a semi-annual period. An excursion shall be defined as a monthly static pressure verification that is less than a percentage (to be proposed by permittee and approved by DEQ) of the value determined during initial capture efficiency testing. The appropriate percentage variation allowed is also to be determined based on results of the initial capture efficiency testing and approved by the Director, Valley Region. Semi-annual periods are as indicated by reporting requirements in Condition XV.C.3.

(9 VAC 5-80-110 and 40 CFR 64.8)

15. The permittee shall not cause or permit the discharge into the atmosphere from a paint line (PL2 – PL4) any VOC in excess of 3.8 pounds per gallon of coating, excluding water, as delivered by the coating applicator. This standard may be achieved as indicated in Conditions IV.A.1, IV.A.3, IV.A.4, and IV.A.5.

(9 VAC 5-80-110 and 9 VAC 5-40-4480A and B)

16. Determination of compliance with the emission standard in Condition IV.A.15 not based on compliant coatings (i.e., coating formulation alone) shall be based on 7.9 lbs VOC per gallon coating solids in coating as used (instead of 3.8 pounds per gallon of coating excluding water), according to 9 VAC 5-20-121 and AQP-2 (Procedures for Determining Compliance with Volatile Organic Compound Emission Standards Covering Surface Coating Operations (July 1, 1991)). Compliance may also be based on transfer efficiency greater than the DEQ-accepted baseline transfer efficiency if

demonstrated by methods acceptable to DEQ according to the applicable procedure in 9 VAC 5-20-121.

(9 VAC 5-80-110 and 9 VAC 5-40-4540 C)

17. The emission standards in Conditions IV.A.15 and IV.A.16 apply coating by coating or to the volume weighted average of coatings where the coatings are used on a single paint line and the coatings are the same type or perform the same function. Such averaging shall not exceed 24 hours.

(9 VAC 5-80-110 and 9 VAC 5-40-4540 B)

18. The permittee shall not operate a paint line (PL2 – PL4) unless reasonable precautions are taken to minimize the discharge of emissions from cleaning and purging operations. Reasonable precautions may include the following:

- a. The use of capture or control devices or both;
- b. The use of detergents, high pressure water, or other nonvolatile cleaning methods;
- c. The minimization of the quantity of volatile organic compounds used to clean lines of equipment; and
- d. The adjustment of production schedules to minimize coating changes thereby reducing the need for frequent cleaning or purging of a paint line.

(9 VAC 5-80-110 and 9 VAC 5-40-4480 C)

B. Monitoring

1. Each RTO shall be equipped with devices to continuously measure and record oxidizer chamber temperature. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures that shall include, as a minimum, the manufacturer's written requirements, recommendations, or specifications. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the RTO is operating.

(9 VAC 5-80-110, Condition 13 of 4/21/05 Permit)

2. Annual VOC emissions shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = (V_{TPUT} - V_{REC} - V_{RET}) \times (1 - OCE)$$

$$V_{EM} = \text{Annual emissions of VOCs in tons.}$$

$$V_{TPUT} = \text{Annual throughput of VOCs in tons.}$$

V_{REC} = Annual amount of VOCs recovered or disposed of off-site in tons.

V_{RET} = Annual amount of VOCs retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency), expressed as a mass fraction

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the V_{REC} and the V_{RET} calculations shall be arranged with the Director, Valley Region. The control device capture and destruction efficiencies used in the equation shall be the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency). The capture efficiency value used in calculating emissions for paint lines meeting the criteria for permanent total enclosure (Condition IV.A.6) shall be 100 percent.

(9 VAC 5-80-110 and Condition 15 of 4/21/05 Permit)

3. Except as indicated in Condition IV.B.4, for the purpose of calculating emissions, the VOC content of each coating as supplied shall be based on formulation data as shown on its Material Safety Data Sheet (MSDS). If VOC content is given as a range, the maximum value shall be used.

(9 VAC 5-80-110)

4. If the monthly calculation (as required by Condition IV.B.2) indicates that annual VOC emissions are equal to or greater than 75% of the allowable limits in Condition IV.A.11, the VOC content of each coating as supplied shall be determined quarterly using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used for the purpose of calculating emissions. If a MSDS indicates a material contains 100% VOC, it shall be acceptable to use this value and the material density from the MSDS for emissions calculations in lieu of testing. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each coating shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual emissions are below 75% of the allowable limit in Condition IV.A.11 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.

(9 VAC 5-80-110)

5. For Paint Line 4 (PL4) and for Paint Lines 2 & 3 and the Paint Kitchen (PL2 & PL3 and PK), the permittee shall conduct monitoring as specified in the respective Compliance Assurance Monitoring (CAM) Plans (Attachments A and B).
(9 VAC 5-80-110 and 40 CFR 64.6(c))
6. To convert a coating formulation from pounds of VOC per gallon of coating less water and exempt solvents (lb VOC/GCLW) to pounds of VOC per gallon of coating solids (lb VOC/GCS), the density of the coating solvent (not the density of the coating) shall be determined using the appropriate reference method. For multiple VOCs, a volume-weighted average density shall be used according to the procedures specified in the EPA document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings", EPA-450/3-84-019, December 1984. To calculate a coating formulation in terms of lb VOC/GCS, the following formula shall be used:

$$F_{cs} = \frac{F_{clw}}{1 - F_{clw}/Dc}$$

Where:

F_{cs} = VOC content of the coating in lb VOC/GCS

F_{clw} = VOC content of the coating in lb VOC/GCLW

Dc = density of VOC used (lb VOC/gallon VOC) (note: use a volume-weighted average for multiple VOCs)

The derived value for F_{cs} shall be used in the formula in Condition IV.B.7 to determine compliance with the standard in Condition IV.A.16.
(9 VAC 5-80-110, 9 VAC 5-40-4540 B, and AQP-2)

7. For the purpose of determining compliance with the standard given in Condition IV.A.16, the overall control efficiency required for each paint line to comply with the standard shall be determined by the following formula:

$$OE_{req} = \frac{F_{cs} - 7.9}{F_{cs}}$$

Where:

F_{cs} = VOC content of coating in lbs VOC/gal coating solids, as defined in Condition IV.B.6

OE_{req} = overall control efficiency required (mass fraction)

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

8. For the purpose of determining compliance with the standard given in Condition IV.A.16, the overall control efficiency of the add-on control system for each paint line (PL2 – PL4) shall be determined by the following formula:

$$OE = CE \times DRE$$

Where:

OE = overall control efficiency (mass fraction)

CE = collection efficiency of the capture device (lb VOC collected/lb VOC used)

DRE = destruction or removal efficiency of the add-on control device

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. MSDS or VOC Data Sheet showing VOC content (pounds/gallon) of each coating used;
2. Reference Method 24 test results, if applicable;
3. Monthly and annual use (in gallons) of each coating for Paint Lines 2, 3, and 4 (PL2 - PL4). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;
4. Monthly and annual use (in gallons) of each coating for the Paint Laboratory (PLAB). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;
5. Monthly and annual VOC (in tons) retained in the recovered coatings and product(s) for Paint Lines 2, 3, and 4 (PL2 - PL4). Annual mass of compounds retained shall be calculated monthly as the sum of each consecutive 12-month period;
6. Monthly and annual VOC emissions (in tons) from Paint Lines 2, 3, and 4 (PL2 - PL4) and the Paint Kitchen (PK) (as a sum) and from the Paint Laboratory (PLAB). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period;
7. Monthly and annual hours of operation for Paint Line 4 (PL4). Annual operating hours shall be calculated monthly as the sum of each consecutive 12-month period;

8. Average combustion zone temperature (during actual painting operations) of the RTO serving Paint Lines 2 and 3 (PL2 – PL3), calculated hourly as an average of the temperatures during the previous three hours;
9. Monthly records of any three-hour period (during actual painting operations) during which the average combustion zone temperature of the RTO serving Paint Lines 2 and 3 (PL2 – PL3) is below the minimum temperature required by Conditions IV.A.7 and the total hours of RTO operation;
10. Documentation of monitoring required by each CAM Plan (Attachments A and B), to include:
 - a. Average combustion zone temperature (during actual painting operations) for each RTO, calculated hourly as an average of the temperatures during the previous three hours, including data used to derive the temperature as required in Condition IV.B.1;
 - b. For RTO1, log of daily PLC checks for static pressure sensor (for Paint Lines 2 & 3 (PL2 & PL3)) and fan motor operation (for Paint Lines 2 & 3 (PL2 & PL3) and the Paint Kitchen (PK)) and log of verifications taken once per 30-day period at each pressure sensor for Paint Lines 2 & 3 (PL2 & PL3);
 - c. For each RTO and for capture systems associated with RTO1, number of excursions in each semi-annual period;
 - d. For each RTO and for capture systems associated with RTO1, corrective actions taken in response to excursions;
 - e. For each RTO, results of annual check of thermocouple accuracy;
 - f. For the capture systems associated with RTO1, results of monthly pressure sensor verification;
 - g. For RTO2, results of semi-annual inspections of valves on air lines to each RTO bed;
 - h. For RTO2, records of repairs or replacements undertaken as a result of semi-annual valve inspections;
 - i. For each RTO, results of performance testing conducted according to the CAM Plan;
 - j. For each RTO, if applicable, any written QIP required by Condition IV.A.13 and 40 CFR 64.8 and any activities undertaken to implement a QIP;

11. Monthly records of any three-hour period (during actual painting operations) during which the average combustion zone temperature of the RTO serving Paint Line 4 (PL4) is below the minimum temperature required by Condition IV.A.8 and the total hours of RTO operation;
12. Results of performance tests and enclosure tests;
13. Strip charts showing the combustion zone temperature of each RTO; and
14. Calculations showing the required overall control efficiency needed to achieve the emission standard in Condition IV.A.16, as specified in Condition IV.B.7 (and calculation of underlying variables), and showing the overall control efficiency actually achieved for each paint line (PL2 – PL4), as specified in Condition IV.B.8.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-80-110 and Condition 27 of 4/21/05 Permit)

D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided when requested at the appropriate locations.
(9 VAC 5-80-110 and Condition 14 of 4/21/05 Permit)
2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC content	EPA Method 24
Visible Emissions	EPA Method 9

(9 VAC 5-80-110)

E. Reporting

1. The permittee shall submit a quarterly report as specified in Condition IV.E.2 to the Director, Valley Region, in accordance with the following schedule:

Time Period Covered by Report	Report Due Date
January 1 – March 31	June 1
April 1 - June 30	September 1
July 1 – September 30	December 1
October 1 – December 31	March 1

The reports due on March 1 and September 1 shall be submitted with the semi-annual report required by Condition XV.C.3.

(9 VAC 5-80-110 and Condition 28 of 4/21/05 Permit)

2. Each quarterly report shall document the following:
 - a. For the RTO serving Paint Lines 2 and 3 (PL2 – PL3), any three-hour period (during actual painting operations) during which the average combustion zone temperature is below 1475°F and the total hours of RTO operation;
 - b. For the RTO serving Paint Line No. 4 (PL4), any three-hour period (during actual painting operations) during which the average combustion zone temperature is below 1550°F and the total hours of RTO operation.

The submission of quarterly reports may be discontinued at any time upon written notification from the Director, Valley Region.

(9 VAC 5-80-110 and Condition 28 of 4/21/05 Permit)

3. In addition to the reports required by Condition XV.C.3, written reports containing the following information pertaining to each CAM Plan (Attachments A and B) shall be submitted to the Director, Valley Region, no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
 - a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions and the corrective actions taken;

- b. Summary information on the number, duration, and cause (including unknown cause, if applicable) of monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks);
- c. A description of actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the plan has been completed and reduced the likelihood of similar levels of excursions.

The information listed above may be included in the reports required by Condition XV.C.3.
(9 VAC 5-80-110 and 40 CFR 64.9(a)(2))

V. Laminating Operations Requirements - (Emission Unit ID# LAM1-LAM4)

Monitoring, recordkeeping, and reporting requirements for the RTO that controls emissions from Laminator 3 (LAM3) are included in Part IV of the permit and in the attached CAM Plan (Attachment B). The RTO also controls emissions from painting operations.

A. Limitations

1. The throughput of VOC to Laminator 1 (LAM1) shall not exceed 9.8 tons per year, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-110 and Condition 22 of 4/21/05 Permit)
2. VOC emissions from Laminator 1 (LAM1) shall be controlled by use of waterborne coatings only, as defined in EPA Method 24 (40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 3 of 4/21/05 Permit)
3. VOC emissions from Laminator 3 (LAM3) shall be controlled by a 95 % efficient capture system and an RTO. The RTO shall be provided with adequate access for inspection and shall be in operation when Laminator 3 (LAM3) is operating.
(9 VAC 5-80-110 and Condition 4 of 4/21/05 Permit)
4. VOC emissions shall not exceed the limits specified below:

Laminator 1 (LAM1)	9.8 tpy
Laminator 3 (LAM3)	100 tpy
Laminator 4 (LAM4)	100 tpy

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Condition V.B.1 and V.B.2.

(9 VAC 5-80-110 and Condition 24 of 4/21/05 Permit)

5. Visible emissions from Laminator 2 (LAM2) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)

6. Visible emissions from Laminators 1, 3 and 4 (LAM1, LAM3 and LAM4) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
(9 VAC 5-50-80 and 9 VAC 5-80-110)
7. The permittee shall regularly investigate the technical feasibility of using coatings having lower volatile toxic compound or hazardous air pollutant content on Laminators 3 and 4 (LAM3 and LAM4). The results of such feasibility studies shall be reported semi-annually as required by Condition V.E. Details of the studies shall be arranged with the Director, Valley Region.
(9 VAC 5-80-110 and Condition 16 of 4/21/05 Permit)
8. The permittee shall develop a Quality Improvement Plan (QIP) for Laminator 3 (LAM3) according to 40 CFR 64.8 if more than one excursion from the indicator range specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment B) occurs within a semi-annual period. An excursion shall be defined as a monthly static pressure verification that is less than a percentage (to be proposed by permittee and approved by DEQ) of the value determined during initial capture efficiency testing. The appropriate percentage variation allowed is also to be determined based on results of the initial capture efficiency testing and approved by the Director, Valley Region. Semi-annual periods are as indicated by reporting requirements in Condition XV.C.3.
(9 VAC 5-80-110 and 40 CFR 64.8)
9. The permittee shall not cause or permit the discharge into the atmosphere from a laminator (LAM1 – LAM4) any VOC in excess of 3.8 pounds per gallon of coating, excluding water, as delivered by the coating applicator. This standard may be achieved by use of the following methods:
 - a. Use of waterborne coatings;
 - b. Use of high-solids coatings;
 - c. Carbon adsorption;
 - d. Incineration; or
 - e. Any technology of equal or greater control efficiency when compared to the use of a coating having 3.8 pounds or less VOC per gallon of coating, excluding water, provided such technology is approved by the Director, Valley Region.

(9 VAC 5-80-110, 9 VAC 5-40-4480A and B and 9 VAC 5-40-4490)

10. Determination of compliance with the emission standard in Condition V.A.9 not based on compliant coatings (i.e., coating formulation alone) shall be based on 7.9 lbs VOC per gallon coating solids in coating as used (instead of 3.8 pounds per gallon of coating excluding water), according to 9 VAC 5-20-121 and AQP-2 (Procedures for Determining Compliance with Volatile Organic Compound Emission Standards Covering Surface Coating Operations (July 1, 1991)). Compliance may also be based on transfer efficiency greater than the DEQ-accepted baseline transfer efficiency if demonstrated by methods acceptable to DEQ according to the applicable procedure in 9 VAC 5-20-121.

(9 VAC 5-80-110 and 9 VAC 5-40-4540 C)

11. The emission standards in Conditions V.A.9 and V.A.10 apply coating by coating or to the volume weighted average of coatings where the coatings are used on a single laminator and the coatings are the same type or perform the same function. Such averaging shall not exceed 24 hours.

(9 VAC 5-80-110 and 9 VAC 5-40-4540 B)

12. The permittee shall not operate a laminator (LAM1 – LAM4) unless reasonable precautions are taken to minimize the discharge of emissions from cleaning and purging operations. Reasonable precautions may include the following:

- a. The use of capture or control devices or both;
- b. The use of detergents, high pressure water, or other nonvolatile cleaning methods;
- c. The minimization of the quantity of volatile organic compounds used to clean lines of equipment; and
- d. The adjustment of production schedules to minimize coating changes thereby reducing the need for frequent cleaning or purging of a laminator.

(9 VAC 5-80-110 and 9 VAC 5-40-4480 C)

B. Monitoring

1. Annual VOC emissions from Laminator 3 (LAM3) shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = (V_{TPUT} - V_{REC} - V_{RET}) \times (1 - OCE)$$

V_{EM} = Annual emissions of VOCs in tons.

V_{TPUT} = Annual throughput of VOCs in tons.

V_{REC} = Annual amount of VOCs recovered or disposed of off-site in tons.

V_{RET} = Annual amount of VOCs retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency), expressed as a mass fraction

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the V_{REC} and the V_{RET} calculations shall be arranged with the Director, Valley Region. The control device capture and destruction efficiencies used in the equation shall be the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency).

(9 VAC 5-80-110 and Condition 15 of 4/21/05 Permit)

2. Annual VOC emissions from Laminator 1 (LAM1) and Laminator 4 (LAM4) shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = V_{TPUT} - V_{REC} - V_{RET}$$

V_{EM} = Annual emissions of VOCs in tons.

V_{TPUT} = Annual throughput of VOCs in tons.

V_{REC} = Annual amount of VOCs recovered or disposed of off-site in tons.

V_{RET} = Annual amount of VOCs retained in the products in tons.

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the V_{REC} and the V_{RET} calculations shall be arranged with the Director, Valley Region.

(9 VAC 5-80-110 and Condition 15 of 4/21/05 Permit)

3. Except as indicated in Condition V.B.4, for the purpose of calculating emissions, the VOC content of each adhesive or coating as supplied shall be based on formulation data as shown on its Material Safety Data Sheet (MSDS). If VOC content is given as a range, the maximum value shall be used.

(9 VAC 5-80-110)

4. If the monthly calculation (as required by Conditions V.B.1 and V.B.2) indicates that annual VOC emissions are equal to or greater than 50% of the allowable limits in Condition V.A.4, the VOC content of each adhesive or coating as supplied shall be determined quarterly using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used for the purpose of calculating emissions. If a MSDS indicates a material contains 100% VOC, it shall be acceptable to use this value and the material

density from the MSDS for emissions calculations in lieu of testing. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each adhesive or coating shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual emissions are below 50% of the allowable limit in Condition V.A.4 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.

(9 VAC 5-80-110)

5. For Laminator 3 (LAM3), the permittee shall conduct monitoring as specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment B).
(9 VAC 5-80-110 and 40 CFR 64.6(c))
6. If a laminator uses compliant coatings, the standard in Condition V.A.9 shall be used to determine compliance. In this case, the applicable standard applies coating by coating or to the volume-weighted average of coatings where the coatings are used on a single laminator and the coatings are of the same type or perform the same function. In cases where use of compliant coatings is the only control technique used, 7.9 pounds VOC per gallon of coating solids (lbs VOC/GCS) may be used at the permittee's option. The VOC content of the coating, and the amount and density of any solvents added, shall be used to determine compliance. The VOC content of the coating as applied shall be determined according to the procedures in EPA Reference Method 24 (40 CFR 60, Appendix A) for inks and coatings (using the one-hour bake time) according to the EPA document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, December 1984. Compounds exempted from the definition of volatile organic compounds shall be treated as water.
(9 VAC 5-80-110, 9 VAC 5-40-4540 B, and AQP-2)
7. To convert a coating formulation from pounds of VOC per gallon of coating less water and exempt solvents (lb VOC/GCLW) to pounds of VOC per gallon of coating solids (lb VOC/GCS), the density of the coating solvent (not the density of the coating) shall be determined using the appropriate reference method. For multiple VOCs, a volume-weighted average density shall be used according to the procedures specified in the EPA document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings", EPA-450/3-84-019, December 1984. To calculate a coating formulation in terms of lb VOC/GCS, the following formula shall be used:

$$F_{cs} = \frac{F_{clw}}{1 - F_{clw}/Dc}$$

Where:

F_{cs} = VOC content of the coating in lb VOC/GCS

F_{clw} = VOC content of the coating in lb VOC/GCLW

D_c = density of VOC used (lb VOC/gallon VOC) (note: use a volume-weighted average for multiple VOCs)

The derived value for F_{cs} shall be used in the formula in Condition V.B.8 to determine compliance with the standard in Condition V.A.10 for each laminator served by an add-on control system.

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

8. For the purpose of determining compliance with the standard given in Condition V.A.10, the overall control efficiency, as applicable, required for each laminator to comply with the standard shall be determined by the following formula:

$$OE_{req} = \frac{F_{cs} - 7.9}{F_{cs}}$$

Where:

F_{cs} = VOC content of coating in lbs VOC/gal coating solids, as defined in Condition V.B.7

OE_{req} = overall control efficiency required (mass fraction)

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

9. For the purpose of determining compliance with the standard given in Condition V.A.10, the overall control efficiency of the add-on control system for each laminator (LAM1 – LAM4), as applicable, shall be determined by the following formula:

$$OE = CE \times DRE$$

Where:

OE = overall control efficiency (mass fraction)

CE = collection efficiency of the capture device (lb VOC collected/lb VOC used)

DRE = destruction or removal efficiency of the add-on control device

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such

records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. MSDS or VOC Data Sheet showing VOC content (pounds/gallon) of each adhesive, coating and solvent used;
2. Results of Reference Method 24 tests, if applicable;
3. Monthly and annual use (in gallons) of each adhesive and coating for Laminators 1, 3 and 4 (LAM1, LAM3 and LAM4). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;
4. Monthly and annual VOC (in tons) retained in hazardous waste and laminator product(s) for Laminators 1, 3 and 4 (LAM1, LAM3 and LAM4). Annual amounts shall be calculated monthly as the sum of each consecutive 12-month period;
5. Monthly and annual throughput (in tons) of VOC to Laminator 1 (LAM1). Annual throughput shall be calculated as the sum of each consecutive 12-month period;
6. Monthly and annual VOC emissions (in tons) from each of Laminators 1, 3 and 4 (LAM1, LAM3 and LAM4). Annual emissions shall be calculated as the sum of each consecutive 12-month period;
7. Test results verifying the 95% capture efficiency required for Laminator 3 by Condition V.A.3;
8. Calculations of the volume-weighted average of coatings used, if applicable, according to Condition V.B.6;
9. Calculations showing the required overall control efficiency needed for Laminator 3 (LAM3) to achieve the emission standard in Condition V.A.10, as specified in Condition V.B.8 (and calculation of underlying variables), and calculations showing the overall control efficiency actually achieved for Laminator 3 (LAM3) as specified in Condition V.B.9;
10. Documentation of monitoring required by the CAM Plan for Laminator 3 (LAM3) (Attachment B), to include:
 - a. Average combustion zone temperature (during actual painting operations) for RTO1, calculated hourly as an average of the temperatures during the previous three hours, including data used to derive the temperature as required in Condition IV.B.1;

- b. Log of daily PLC checks of static pressure sensors and fan motor operation and log of verifications made once per 30-day period at each pressure sensor for Laminator 3 (LAM3);
- c. For RTO1 and for the capture system associated with Laminator 3 (LAM3), number of excursions in each semi-annual period;
- d. For RTO1 and for the capture system associated with Laminator 3 (LAM3), corrective actions taken in response to excursions;
- e. Results of annual check of thermocouple accuracy;
- f. For the capture systems associated with Laminator 3, results of monthly pressure sensor verification;
- g. Results of performance testing conducted according to the CAM Plan; and
- h. If applicable, any written QIP required by Condition V.A.8 and 40 CFR 64.8 and any activities undertaken to implement a QIP.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 27 of 4/21/05 Permit)

D. Testing

- 1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-80-110 and Condition 14 of 4/21/05 Permit)
- 2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC Content	EPA Method 24
Visible Emissions	EPA Method 9

(9 VAC 5-80-110)

E. Reporting

1. The permittee shall submit a status report semi-annually addressing results of the feasibility studies required by Condition V.A.7. Reports shall include, but not be limited to:
 - a. A summary of the coatings evaluated during the previous six months;
 - b. Results of the coating evaluation;
 - c. The hazardous air pollutant (HAP) content (in lbs HAP/ lb coating used), calculated as an average of all coatings used on Laminators 3 and 4 (LAM3 and LAM4) for the previous six months.

Details of the reporting format shall be arranged with the Director, Valley Region.
(9 VAC 5-80-110 and Condition 29 of 4/21/05 Permit)

2. In addition to the reports required by Condition XV.C.3, written reports containing the following information pertaining to the CAM Plan (Attachment B) shall be submitted to the Director, Valley Region, no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
 - a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions and the corrective actions taken;
 - b. Summary information on the number, duration, and cause (including unknown cause, if applicable) of monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks);
 - c. A description of actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the plan has been completed and reduced the likelihood of similar levels of excursions.

The information listed above may be included in the reports required by Condition XV.C.3.
(9 VAC 5-80-110 and 40 CFR 64.9(a)(2))

VI. Product Rotogravure Printing Requirements - (Emission unit ID# LEMB)

The following terms and conditions include requirements of 40 CFR Part 63 Subpart KK for product and packaging rotogravure facilities, which is applicable to the Lembo printer (LEMB). A current copy of 40 CFR Part 63 Subpart KK has been attached. All terms used in conditions derived from 40 CFR 63 Subpart KK shall have the meanings as defined in 40 CFR 63.2 and 40 CFR 63.822. Please note that, as used in Part VI, "process equipment" means rotogravure press.

A. Limitations

1. Except as specified in this permit, the facility is to be operated in accordance with federal requirements in 40 CFR 63 Subpart KK and relevant terms of 40 CFR 63 Subpart A, as identified in Table 1 of Subpart KK.
(9 VAC 5-80-110)
2. Visible emissions from the Lembo printer (LEMB) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
3. Hazardous air pollutant (HAP) emissions from the Lembo printer (LEMB) shall be limited to no more than four percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month.
(9 VAC 5-80-110 and 40 CFR 63.825(b))
4. 40 CFR 63 Subpart KK contains various options for compliance with the standards for product rotogravure printing which are enumerated in 40 CFR 63.825(b). If in the future the permittee chooses a different compliance option from that codified herein, a permit modification may be required.
(9 VAC 5-80-110)
5. The permittee shall not cause or permit the discharge into the atmosphere from the Lembo printer (LEMB) any VOC in excess of 3.8 pounds per gallon of coating, excluding water, as delivered by the coating applicator. This standard may be achieved by use of the following methods:
 - a. Use of waterborne coatings;
 - b. Use of high-solids coatings;

- c. Carbon adsorption;
- d. Incineration; or
- e. Any technology of equal or greater control efficiency when compared to the use of a coating having 3.8 pounds or less VOC per gallon of coating, excluding water, provided such technology is approved by the Director, Valley Region.

(9 VAC 5-80-110, 9 VAC 5-40-4480A and B and 9 VAC 5-40-4490)

- 6. The emission standard in Conditions VI.A.5 applies coating by coating or to the volume weighted average of coatings where the coatings are the same type or perform the same function. Such averaging shall not exceed 24 hours.

(9 VAC 5-80-110 and 9 VAC 5-40-4540 B)

- 7. The permittee shall not operate the Lembo printer (LEMB) unless reasonable precautions are taken to minimize the discharge of emissions from cleaning and purging operations. Reasonable precautions may include the following:
 - a. The use of capture or control devices or both;
 - b. The use of detergents, high pressure water, or other nonvolatile cleaning methods;
 - c. The minimization of the quantity of volatile organic compounds used to clean lines of equipment, and
 - d. The adjustment of production schedules to minimize coating changes thereby reducing the need for frequent cleaning or purging of the Lembo printer.

(9 VAC 5-80-110 and 9 VAC 5-40-4480 C)

B. Monitoring

- 1. To demonstrate compliance with the limit in Condition VI.A.3, the organic HAP weight fraction of each ink, coating, varnish, adhesive, primer, solvent, thinner, reducer, diluent, and other material applied shall be determined by one of the following procedures:
 - a. EPA Reference Method 311: The permittee may test the material in accordance with Method 311 (40 CFR 63 Appendix A). The Method 311 determination may be performed by the manufacturer of the material and the results provided to the permittee. If these values cannot be determined using Method 311, the permittee shall submit to the U. S. Environmental Protection Agency (EPA) for approval an

alternative technique for determining their values as specified in 40 CFR 63.827(b)(2).

- b. VOC content: The permittee may determine the volatile matter content of the material in accordance with 40 CFR 63.827(c)(2) and use this value for the organic HAP content.
- c. CPDS formulation data: The permittee may rely on formulation data provided by the manufacturer of the material on Certified Product Data Sheet (CPDS) if
 - (1) The manufacturer has included in the organic HAP content determination all organic HAP present at a level greater than 0.1 percent in any raw material used, weighted by the mass fraction of each raw material used in the material, and
 - (2) The manufacturer has determined the organic HAP content of each raw material present in the formulation by Method 311 (40 CFR 63 Appendix A) or by an alternate method approved by EPA or by reliance on a CPDS from a raw material supplier prepared in accordance with Condition VI.B.1.a.

(9 VAC 5-80-110 and 40 CFR 63.827(b)(2))

- 2. In the event of an inconsistency between the Method 311 (40 CFR 63 Appendix A) test data and a facility's formulation data, the Method 311 test data shall govern, unless after consultation, the permittee demonstrates to the satisfaction of DEQ that the formulation data are correct.
(9 VAC 5-80-110 and 40 CFR 63.827(b)(2)(iv))
- 3. Compliance with Condition VI.A.3 shall be demonstrated by showing that the monthly average as-applied organic HAP content of all materials applied is less than 0.04 kg HAP per kg material applied, as determined by the following equation:

$$H_L = \frac{\sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_j}$$

Where

H_L = the monthly average as-applied organic HAP content of all solids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, in kg/kg

M_i = the mass of ink or other material, i , applied in a month, in kg

C_{hi} = the organic HAP content of ink or other solids-containing material, i , expressed as a weight-fraction, in kg/kg

C_{hj} = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg
 M_j = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

(9 VAC 5-80-110 and 40 CFR 63.825(b)(4))

4. The amount of organic HAP applied shall be determined using the following equation:

$$H = \sum_{i=1}^p M_i C_{hi} + \sum_{j=1}^q M_j C_{hj}$$

Where

H = the total monthly organic HAP applied, in kg

M_i = the mass of ink or other material, i, applied in a month, in kg

C_{hi} = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, in kg/kg

C_{hj} = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg

M_j = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

The organic HAP emitted from the Lembo printer (LEMB) is equal to the organic HAP applied on the printer.

(9 VAC 5-80-110 and 40 CFR 63.825(f)(5))

5. If compliant coatings are used on the Lembo printer (LEMB), the standard in Condition VI.A.5 shall be used to determine compliance. In this case, the applicable standard applies coating by coating or to the volume-weighted average of coatings where the coatings are of the same type or perform the same function. In cases where use of compliant coatings is the only control technique used, 7.9 pounds VOC per gallon of coating solids (lbs VOC/GCS) may be used at the permittee's option. The VOC content of the coating, and the amount and density of any solvents added, shall be used to determine compliance. The VOC content of the coating as applied shall be determined according to the procedures in EPA Reference Method 24 (40 CFR 60, Appendix A) for inks and coatings (using the one-hour bake time) or EPA Reference Method 24A (40 CFR 60, Appendix A) for solvent-borne printing inks and related coatings according to the EPA document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings," EPA-450/3-84-019, December 1984. Compounds exempted from the definition of volatile organic compounds shall be treated as water.

(9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

6. To convert a coating formulation from pounds of VOC per gallon of coating less water and exempt solvents (lb VOC/GCLW) to pounds of VOC per gallon of coating solids (lb VOC/GCS), the density of the coating solvent (not the density of the coating) shall be determined using the appropriate reference method. For multiple VOCs, a volume-weighted average density shall be used according to the procedures

specified in the EPA document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings", EPA-450/3-84-019, December 1984. To calculate a coating formulation in terms of lb VOC/GCS, the following formula shall be used:

$$F_{cs} = \frac{F_{clw}}{1 - F_{clw}/Dc}$$

Where:

F_{cs} = VOC content of the coating in lb VOC/GCS

F_{clw} = VOC content of the coating in lb VOC/GCLW

Dc = density of VOC used (lb VOC/gallon VOC) (note: use a volume-weighted average for multiple VOCs)

The derived value for F_{cs} shall be used to determine compliance with the alternative standard in Condition VI.B.5, if the permittee chooses to comply with the alternative standard in lieu of the standard in Condition VI.A.5 (according to Condition VI.B.5). (9 VAC 5-80-110, 9 VAC 5-40-4540 B and AQP-2)

7. The permittee shall perform weekly inspections of the Lembo printer (LEMB) stacks to determine the presence of visible emissions. If during the inspection, or at any other time, visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. The VEE shall be conducted for a minimum period of six (6) minutes. If any of the observations exceed the standard, the observation period shall continue until sixty (60) minutes of observation have been completed. If the sixty-minute VEE indicates a violation of the standard, corrective action shall be taken.
(9 VAC 5-80-110)

C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Annual throughput of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, and other material used in the Lembo printer, calculated monthly as the sum of each consecutive 12-month period.
2. HAP content of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, and other material used in the Lembo printer, as determined according to Condition VI.B.1.

3. HAP emissions from the Lembo printer, calculated monthly as the sum of each consecutive 12-month period. Emissions shall be calculated in accordance with Condition VI.B.4.
4. Monthly average as-applied organic HAP content of all materials applied at the Lembo printer, calculated according to the equation in Condition VI.B.3.
5. Results from weekly inspections of the Lembo printer (LEMB) stacks, to include:
 - a. The date, time, and name of person performing each inspection;
 - b. Whether or not visible emissions were observed;
 - c. EPA Method 9 (40 CFR 60, Appendix A) observation record, if applicable;
 - d. If an exceedance of the 20% opacity standard is determined by a sixty-minute EPA Method 9 (40 CFR 60, Appendix A) observation, a description of the corrective action taken.
6. MSDS showing VOC content of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, and other material used in the Lembo printer;
7. Calculations of the volume-weighted average of coatings used, if applicable, according to Condition VI.A.6;
8. Calculations showing the VOC content of coatings in lbs VOC per gallon coating solids, if applicable, according to Condition VI.B.6, if applicable.

Such records shall be maintained in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be retained on site. The remaining three (3) years may be retained off site. Such files may be maintained on microfilm, computer, computer floppy disks, magnetic tape disks, or microfiche.
(9 VAC 5-80-110, 40 CFR 63.829(b)(1), 40 CFR 63.6(e)(3) and 40 CFR 63.10(b)(2))

D. Testing

1. The facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method
VOC	EPA Methods 18, 25, 25a (40 CFR Part 60, Appendix A)
VOC Content	EPA Methods 24, 24a (40 CFR Part 60, Appendix A)
HAP Content	EPA Method 311 (40 CFR Part 63, Appendix A)
Visible Emissions	EPA Method 9 (40 CFR Part 60, Appendix A)

(9 VAC 5-80-110)

E. Reporting

As required under 40 CFR 63.10(e)(3)(vii) and (e)(3)(viii), one summary report shall be submitted to the Director, Valley Region, semi-annually for the hazardous air pollutants monitored at the rotogravure presses (P1 - P5). The summary report shall be entitled "Summary Report--Gaseous Excess Emissions" and shall contain the following information:

1. The company name and address;
2. An identification of each hazardous air pollutant monitored at the rotogravure press (LEMB);
3. The beginning and ending dates of the reporting period;
4. A brief description of the process unit(s);
5. The emission limitations specified in 40 CFR 63 Subpart KK;
6. The total operating time of the rotogravure press (LEMB) during the reporting period;
7. An emission data summary, including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during the reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

8. A description of any changes in the process since the last reporting period;
9. Exceedances of the standards in 40 CFR 63.825;
10. The name, title, and signature of the responsible official who is certifying the accuracy of the report; and
11. The date of the report.

Once excess emissions are reported, the summary report shall be submitted quarterly. Quarterly reporting shall be continued until a request to reduce reporting frequency according to 40 CFR 63.10(e)(3)(ii) is approved by the Director, Valley Region. A copy of the request shall be sent to EPA at the following address:

U. S. EPA, Region III
Air Protection Division (3AP00)
ATTN: Printing and Publishing NESHAP Coordinator
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Semi-annual reports shall be submitted no later than March 1 and September 1 and may be combined with the report required by Condition XV.C.3. A copy of the report shall be sent to EPA at the above address.

(9 VAC 5-80-110, 40 CFR 63.830(b)(6)(i), 40 CFR 63.10(d)(5) and 40 CFR 63.10(e)(3)(vi))

VII. Calendering Operations Requirements - (Emission Unit ID# CAL1 - CAL3, CALMIX1a & 1b, 2a, 2b1 & 2b2, and 3a, 3b & 3c)

Additional requirements applicable to Calender 2 (CAL2) are included in Section XII (Compliance Plan).

A. Limitations

1. Visible emissions from Calenders 1 and 3 (CAL1 and CAL3) and associated mixing units (CALMIX1a,b and CALMIX3a,b, and c) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)
2. Visible emissions from the Calender 2 (CAL2) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A).
(9 VAC 5-80-110 and Condition 13 of 12/22/04 Permit)
3. Visible emissions from each fabric filter serving the pre-blenders (CALMIX 2b1 and CALMIX 2b2) and Banbury mixer (CALMIX 2a) shall not exceed 5% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A).
(9 VAC 5-80-110 and Condition 14 of 12/22/04 Permit)
4. Particulate and volatile organic compounds (VOC) emissions from Calender 2 (CAL2) shall be controlled by a 90% efficient capture system and the O'Sullivan "stack-in-stack" system. The O'Sullivan "stack-in-stack" system shall be provided with adequate access for inspection and shall be in operation when Calender 2 (CAL2) is operating.
(9 VAC 5-80-110 and Condition 3 of 12/22/04 Permit)
5. Particulate emissions from pre-blenders (CALMIX 2b1 and CAMIX 2b2) shall be controlled by fabric filters. Each fabric filter shall be provided with adequate access for inspection.
(9 VAC 5-80-110 and Condition 4 of 12/22/04 Permit)
6. Particulate emissions from the Banbury mixer (CALMIX 2a) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the Banbury mixer is operating.
(9 VAC 5-80-110 and Condition 5 of 12/22/04 Permit)

7. The O'Sullivan "stack-in-stack" system (STK 21) serving Calender 2 (CAL2) shall maintain a control efficiency for particulate and VOC emissions of no less than 42.9% on a mass basis.

(9 VAC 5-80-110 and Condition 6 of 12/22/04 Permit)

8. Particulate emissions from the Calenders 1 and 3 (CAL1 and CAL3) and the associated calender mixing units (CALMIX1a,b and CALMIX3a,b, and c) shall not exceed the rate derived from the following equation:

$$E = 4.10P^{0.67}$$

Where

E = emission rate in lbs/hr

P = process weight rate in tons/hr

(9 VAC 5-40-260 C and 9 VAC 5-80-110)

9. Particulate emissions from the mixing units for Calenders 1 and 3 (CALMIX1a,b and CALMIX3a,b, and c) shall be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection.

(9 VAC 5-80-110)

10. The throughput of raw materials processed by Calender 2 (CAL2) shall not exceed 12,000 tons per year, calculated monthly as the sum of each consecutive 12-month period.

(9 VAC 5-80-110 and Condition 9 of 12/22/04 Permit)

11. Emissions from the operation of two pre-blenders (CALMIX 2b1 and CALMIX 2b2) shall not exceed the limits specified below:

PM	0.32 lbs/hr	0.54 tons/yr
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PM-10	0.32 lbs/hr	0.54 tons/yr
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Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions VII.A.5 and VII.A.10.

(9 VAC 5-80-110 and Condition 10 of 12/22/04 Permit)

12. Emissions from the operation of Banbury mixer (CALMIX 2a) shall not exceed the limits specified below:

PM	0.50 lbs/hr	0.85 tons/yr
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PM-10	0.50 lbs/hr	0.85 tons/yr
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Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions VII.A.6 and VII.A.10.

(9 VAC 5-80-110 and Condition 11 of 12/22/04 Permit)

13. Emissions from the operation of Calender 2 (CAL2) shall not exceed the limits specified below:

PM	0.83 lbs/hr	1.41 tons/yr
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PM-10	0.83 lbs/hr	1.41 tons/yr
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VOC	4.13 lbs/hr	7.06 tons/yr
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Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions VII.A.4, VII.A.7 and VII.A.10.

(9 VAC 5-80-110 and Condition 12 of 12/22/04 Permit)

14. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions from Calender 2 (CAL2), with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

- Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance;
- Maintain an inventory of spare parts;
- Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum;
- Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain

records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-80-110 and Condition 26 of 12/22/04 Permit)

B. Monitoring

1. If in the future the calender mixing units (CALMIX 1a,b – CALMIX3a,b, and c) are vented to the atmosphere, the permittee shall thereafter perform weekly inspections of each calender mixing unit (CALMIX1a – CALMIX3c) stack to determine the presence of visible emissions. The presence of visible emissions shall require further investigation as to the cause of the visible emissions and timely corrective action shall be taken such that the mixing unit(s) resumes operation with no visible emissions. All observations and corrective action shall be recorded.
(9 VAC 5-80-110 and Condition 19 of 12/22/04 Permit)

2. Each fabric filter serving the pre-blenders (CALMIX 2b1 and CALMIX 2b2) and Banbury mixer (CALMIX 2a) shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations.
(9 VAC 5-80-110 and Condition 7 of 12/22/04 Permit)

3. The permittee shall perform weekly inspections of the calender (CAL1 – CAL3) stacks to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. The VEE shall be conducted for a minimum period of six (6) minutes. If any of the observations exceed the standard, the observation period shall continue until sixty (60) minutes of observation have been completed. If the sixty-minute VEE indicates a violation of the standard, timely corrective action shall be taken.
(9 VAC 5-80-110 and Condition 18 of 12/22/04 Permit)

C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Monthly and annual throughput processed by the calenders (CAL1 – CAL3), in tons; annual throughput calculated monthly as the sum of each consecutive 12-month period;

2. Annual hours of operation of the calenders (CAL1 – CAL3), calculated monthly as the sum of each consecutive 12-month period;
3. Hourly, monthly, and annual emissions of PM, PM-10, and VOC from Calender 2 (CAL2). Hourly emissions shall be calculated as a monthly average (monthly emissions divided by hours of Calender 2 operation for the month). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period;
4. Hourly, monthly, and annual emissions of PM and PM-10 from the Calender 2 pre-blenders (CALMIX 2b1 and CALMIX 2b2) and from the Calender 2 Banbury mixer (CALMIX 2a). Hourly emissions shall be calculated as a monthly average (monthly emissions divided by hours of Calender 2 operation for the month). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period;
5. Weekly calender (CAL1 – CAL3) and, if applicable, calender mixing unit (CALMIX1a,b – CALMIX3a,b, and c) stack inspection results including:
 - a. The date, time, and name of person performing each inspection;
 - b. Whether or not there were visible emissions; and
 - c. Results of EPA Method 9 (40 CFR 60, Appendix A) testing.
6. Any maintenance or repairs performed as a result of these inspections;
7. Test results verifying the control efficiency required in Condition VII.A.7;
8. Emission factors calculated for particulate and VOC emissions according to most recent DEQ-approved testing;
9. Documentation of Calender 2 (CAL2) capture efficiency; and
10. Results of all stack tests and visible emission evaluations.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-80-110 and Condition 15 of 12/22/04 Permit)

D. Testing

1. The facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-40-30 and 9 VAC 5-80-110)
2. Calender 2 (CAL2) shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided when requested at the appropriate locations.
(9 VAC 5-80-110 and Condition 8 of 12/22/04 Permit)
3. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
PM/PM-10	EPA Methods 5, 17 (40 CFR 60, Appendix A) EPA Method 202 (40 CFR 51, Appendix B)
VOC	EPA Methods 18, 25, 25A (40 CFR 60, Appendix A)
Visible Emissions	EPA Method 9 (40 CFR 60, Appendix A)

(9 VAC 5-80-110)

E. Reporting

The permittee shall furnish notification to the Director, Valley Region, of the intention to shut down or bypass, or both, Calender 2 (CAL2) air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

1. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;
2. The expected length of time that the air pollution control equipment will be out of service;

3. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;
4. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-80-110 and Condition 20 of 12/22/04 Permit)

VIII. Materials Handling Operations Requirements - (Emission unit ID# RESCONV1 and RESCONV2)

A. Limitations

1. Visible emissions from the materials handling operations (RESCONV1 and RESCONV2) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
(9 VAC 5-40-80 and 9 VAC 5-80-110)

2. Particulate emissions from each of the resin conveyors (RESCONV1 and RESCONV2) shall not exceed the rate derived from the following equation:

$$E = 4.10P^{0.67}$$

Where

E = emission rate in lbs/hr

P = process weight rate in tons/hr

(9 VAC 5-40-260 C and 9 VAC 5-80-110)

3. Particulate emissions from each resin conveyor (RESCONV1 and RESCONV2) shall be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection.
(9 VAC 5-80-110)

B. Monitoring

The permittee shall perform weekly inspections of the resin conveyor (RESCONV1 and RESCONV2) stacks to determine the presence of visible emissions. If during the inspection, or at any other time, visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. If the sixty-minute VEE indicates a violation of the standard, corrective action shall be taken.
(9 VAC 5-80-110)

C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Annual throughput of resin to each resin conveyor (RESCONV1 and RESCONV2), calculated monthly as the sum of each consecutive 12-month period.
2. Annual hours of operation of each resin conveyor (RESCONV1 and RESCONV2), calculated monthly as the sum of each consecutive 12-month period.

These records shall be available on site for inspection by the DEQ and shall be current or the most recent five (5) years.

(9 VAC 5-80-110)

D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-40-30 and 9 VAC 5-80-110)
2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
PM/PM-10	EPA Methods 5, 17
Visible Emissions	EPA Method 9

(9 VAC 5-80-110)

IX. Storage Tanks (Emission unit ID# TNK-0021 through TNK-0026 and TNK-0061 through TNK-0066)

A. Limitations

The following limitations do not apply to a tank if it is storing volatile organic compounds (VOCs) having a vapor pressure less than 1.5 pounds per square inch absolute under actual storage conditions or, in the case of filling, under actual filling conditions.

1. Each storage tank (TNK-0021 through TNK-0026 and TNK-0061 through TNK-0066) shall be equipped with a control method that will remove, destroy, or prevent the discharge into the atmosphere of at least 60% by weight of VOC emissions during the filling of the tanks. This standard may be achieved as indicated in Condition IX.A.2.
(9 VAC 5-80-110 and 9 VAC 5-40-3430 A)
2. Each storage tank (TNK-0021 through TNK-0026 and TNK-0061 through TNK-0066) shall be designed and equipped to accommodate filling through the use of a submerged fill pipe.
(9 VAC 5-80-110 and 9 VAC 5-40-3440 A.1)

B. Monitoring and Recordkeeping

The permittee shall maintain records necessary to demonstrate compliance with the permit. The content and format of the records shall be arranged with the Director, Valley Region. The records shall include but are not limited to:

1. List showing the name of the VOC stored in each tank and its vapor pressure in pounds per square inch under absolute actual storage and filling conditions; and
2. For each tank storing a VOC having a vapor pressure equal to or greater than 1.5 pounds per square inch absolute under actual storage or filling conditions, certification of submerged fill pipe.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.

(9 VAC 5-80-110)

**X. Hazardous Air Pollutants from Paper and Other Web Coating
(Emission unit ID# PL2 – PL4, LAM1 – LAM4, and PEMB1)**

The following requirements are derived from 40 CFR 63 Subpart JJJJ (National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating), a copy of which has been attached. All terms used in conditions derived from 40 CFR 63 Subpart JJJJ shall have the meanings as defined in 40 CFR 63.2 and 40 CFR 63.3310. The affected source is the collection of all web coating lines at the facility: specifically, the paint lines, laminators, and post-embosser. Although a web coating line, the Lembo printer is not part of the affected source under Subpart JJJJ because it is subject to 40 CFR 63 Subpart KK. The requirements in this section have an effective date of December 5, 2005.

A. Limitations

1. Organic hazardous air pollutant (HAP) emissions shall be limited to no more than four (4) percent of the mass of coating materials applied for each month.
(9 VAC 5-80-110 and 40 CFR 63.3320(b)(2))
2. For any web coating line for which an add-on control device is used to meet the standard in Condition X.A.1, the following operating limits shall be met:
 - a. Thermal oxidizer: The average combustion temperature for the oxidizer in any three-hour period shall not fall below the combustion temperature limit established during performance testing as required by Condition X.D.3.
 - b. Emission capture system: The permittee shall submit a monitoring plan to the Director, Valley Region, that identifies operating parameters to be monitored according to Condition X.B.6.

After establishing the operating limits through performance testing and the monitoring plan, the operating limits shall be met at all times, except during periods of startup, shutdown, and malfunction.

(9 VAC 5-80-110 and 40 CFR 63.3321(a))

3. 40 CFR 63 Subpart JJJJ contains other options for compliance with the standards for paper and other web coating, which are enumerated in 40 CFR 63.3320. If in the future the permittee chooses a different compliance option from that codified herein, a permit modification may be required.
(9 VAC 5-80-110)
4. In accordance with 40 CFR 63.6(e)(3), the permittee shall develop, implement, and maintain a written startup, shutdown, and malfunction (SSM) plan that describes, in

detail, procedures for operating and maintaining the affected source during periods of SSM. During periods of SSM, the permittee shall operate and maintain the affected source (including associated air pollution control equipment) in accordance with the procedures specified in the current SSM plan.

- a. When actions taken by the permittee during periods of SSM (including actions taken to correct a malfunction) are consistent with the procedures specified in the SSM plan, the permittee shall keep records for that event which demonstrate that the procedures specified in the plan were followed and as described in 40 CFR 63.6(e)(3)(iii).
- b. If an action taken by the permittee during a SSM (including an action taken to correct a malfunction) is not consistent with the procedures specified in the SSM plan, and the permittee exceeds the emission standard in 40 CFR 63 Subpart JJJJ, the permittee shall record the actions taken for that event and shall report such actions within two working days after commencing actions inconsistent with the plan, followed by a letter within seven working days after the end of the event, in accordance with 40 CFR 63.10(d)(5).

(9 VAC 5-80-110, 40 CFR 63.6(e)(3), and 40 CFR 63.10(d)(5))

B. Monitoring

1. The permittee shall demonstrate continuous compliance with the operating limit in Condition X.A.2.a by the following procedures:
 - a. Collecting the combustion temperature data according to Condition X.B.5;
 - b. Reducing the data to three-hour block averages; and
 - c. Maintaining the three-hour average combustion temperature at or above the temperature limit.

(9 VAC 5-80-110 and 40 CFR 63.3321(a))

2. Following the date on which a performance test of a control device is completed to demonstrate continuing compliance with the standards in 40 CFR 63 Subpart JJJJ, the permittee shall operate a continuous parameter monitoring system (CPMS) and monitor a capture system operating parameter.

(9 VAC 5-80-110 and 40 CFR 63.3350(a) and (b))

3. The permittee shall demonstrate that any coating material applied on a never-controlled work station is allowed in the compliance demonstration according to Conditions X.B.9 through X.B.12.
(9 VAC 5-80-110 and 40 CFR 63.3350(c))
4. For each oxidizer used to comply with Condition X.A.1, the permittee shall install, calibrate, maintain, and operate a temperature monitoring device equipped with a continuous recorder, according to the manufacturer's specifications and meeting the following requirements:
 - a. Following the date on which the performance test required by Condition X.D.3 is completed, the calibration of each RTO chart recorder, data logger, or temperature indicator shall be verified at minimum every three months or the chart recorder, data logger, or temperature indicator shall be replaced. The equipment shall be replaced whether the permittee chooses not to perform the calibration or the equipment cannot be calibrated properly.
 - b. Following the date on which the performance test required by Condition X.D.3 is completed, the temperature monitoring device for each RTO shall have an accuracy of +/- 1 percent of the temperature being monitored in degrees Celsius or +/- 1° Celsius, whichever is greater. The thermocouple or temperature sensor shall be installed in the combustion chamber at a location in the combustion zone.
(9 VAC 5-80-110, 40 CFR 63.3350(e)(9)(i) and (ii), 40 CFR 63.3370(k)(1)(iii) and 40 CFR 63.3370(n)(3)(i))
5. Following the date on which the performance tests required by Conditions X.D.3 and X.D.4 are completed, each continuous parameter monitoring system (CPMS) required by Condition X.B.4 shall be installed, operated, and maintained in accordance with the following requirements:
 - a. Each CPMS shall complete a minimum of one cycle of operation for each successive 15-minute period. The permittee shall have a minimum of four equally-spaced successive cycles of CPMS operation to have a valid hour of data;
 - b. The permittee shall have valid data from at least 90 percent of the hours during which the process operated;
 - c. The permittee shall determine the hourly average of all recorded readings as follows:

(1) To calculate a valid hourly value, you must have at least three of four equally-

spaced data values from that hour from a continuous monitoring system (CMS) that is not out-of-control; and

(2) Provided all of the readings recorded in accordance with Condition X.B.5.c (1) clearly demonstrate continuous compliance, the permittee is not required to determine the hourly average of all recorded readings.

- d. The permittee shall determine the rolling three-hour average of all recorded readings for each operating period. To calculate the average for each three-hour averaging period, the permittee shall have at least two of three of the hourly averages for that period using only average values that are based on valid data (i.e., not from out-of-control periods);
- e. The results of each inspection, calibration, and validation check of each CPMS shall be recorded;
- f. The permittee shall maintain each CPMS in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment;
- g. Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities (including calibration checks or required zero and span adjustments), the permittee shall conduct all monitoring at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used for purposes of calculating the emissions concentrations and percent reductions specified in Condition X.B.7. The permittee shall use all the valid data collected during all other periods in assessing compliance of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions;
- h. Any averaging period for which the permittee does not have valid monitoring data and such data are required constitutes a deviation, and the permittee shall notify DEQ as required by Condition X.E.1;
- i. Each CPMS shall be maintained and operated in a manner consistent with safety and good air pollution control practices for minimizing emissions as specified in 40 CFR 63.6(e)(1);
- j. Each CPMS shall be installed such that representative measures of process parameters are obtained;

- k. The permittee shall ensure that the read-out (that portion of the CPMS that provides a visual display or record), or other indication of operation, from each required CPMS is readily accessible on site for operational control or inspection by the operator of the equipment;
 - l. Each CPMS shall be installed, operational, and the data verified as specified in 40 CFR 63 Subpart JJJJ either prior to or in conjunction with conducting the performance tests required by Conditions X.D.3 and X.D.4. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system;
 - m. Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, each CPMS shall be in continuous operation; and
 - n. Each CPMS shall be checked daily for indication that the system is responding. If the CPMS includes an internal system check, results shall be recorded and checked daily for proper operation.
- (9 VAC 5-80-110, 40 CFR 63.3350(e)(1) through (8), 40 CFR 63.8(c))
- 6. The permittee shall develop and implement a site-specific monitoring plan for each capture system. For each capture system, the monitoring plan shall:
 - a. Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test required by Condition X.D.4 is maintained;
 - b. Explain why the parameter is appropriate for demonstrating ongoing compliance;
 - c. Identify the specific monitoring procedures; and
 - d. Specify the operating parameter values that demonstrate compliance with the emission standard in Condition X.A.1. The specified operating parameter value or range of values must represent the conditions present when the capture system is being properly operated and maintained.

The permittee shall conduct all capture system monitoring in accordance with the plan. Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit. The permittee shall review and update the capture system monitoring plan at least annually. The monitoring plan shall be available for inspection by DEQ upon request.

(9 VAC 5-80-110, 40 CFR 63.3321(a), 40 CFR 63.3370(n)(3)(ii), 40 CFR 63.3370(k)(1)(iii) and 40 CFR 63.3350(f))

7. Organic HAP emissions for web coating lines served by each capture system delivering emissions to an oxidizer shall be determined as follows:
 - a. The destruction efficiency of each RTO shall be determined using the procedure in Condition X.D.3;
 - b. The capture system capture efficiency shall be determined in accordance with Condition X.D.4;
 - c. The operating parameters established in accordance with Conditions X.D.3 and X.D.4 to ensure capture and control efficiency shall be continuously monitored whenever a controlled coating lines operating;
 - d. The overall organic HAP control efficiency achieved for each month for each coating line shall be calculated as follows:

$$R = \frac{(E)(CE)}{100}$$

Where:

R = Overall organic HAP control efficiency, percent

E = Organic volatile matter control efficiency of the control device, percent

CE = Organic volatile matter capture efficiency of the capture system, percent

- e. The mass of each coating material applied on the web coating line(s) controlled by each RTO during the month; and
- f. The organic HAP content of each coating material “as-applied” during the month shall be determined according to Condition X.D.1.b.

(9 VAC 5-80-110 and 40 CFR 63.3370(k)(1) and (2)(i), and 40 CFR 63.3370(n)(3)(iii)(A))

8. Organic HAP emissions for the month from each coating line controlled by RTO shall be calculated using the following equation:

$$H_e = (1 - R) \left(\sum_{i=1}^p C_{ahi} M_i \right) - M_{vret}$$

Where:

H_e = Total monthly organic HAP emitted, lbs

R = Overall organic HAP control efficiency, percent
p = Number of different coating materials applied in a month

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, lb/lb

M_i = Mass of as-purchased coating material, i, applied in a month, lbs

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, lbs. The value of this term will be zero in all cases except where the permittee chooses to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for compliance demonstration.

(9 VAC 5-80-110, 40 CFR 63.3370(n)(3)(iii)(A) and 40 CFR 63.3370(k)(2)(ii))

9. Organic HAP applied for the month on uncontrolled web coating lines shall be determined using the following equation:

$$H_m = \sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret}$$

Where:

H_m = Total monthly organic HAP applied, lbs

P = Number of different coating materials applied in a month

C_{hi} = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, lb/lb

M_i = Mass of as-purchased coating material, i, applied in a month, lbs

q = Number of different materials added to the coating material

C_{hij} = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, lb/lb

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, kg

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, lbs. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration

The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that web coating line.

(9 VAC 5-80-110, 40 CFR 63.3370(n)(4), and 40 CFR 63.3370(d))

10. Total organic HAP emissions for the month shall be derived by summing all organic HAP emissions calculated according to Conditions X.B.8 and X.B.9.

(9 VAC 5-80-110 and 40 CFR 63.3370(n)(5)(i))

11. The permittee shall calculate the organic HAP emission rate based on coating material applied using the following equation:

$$S = \frac{H_{et}}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}}$$

Where:

S = Mass of organic HAP emitted per mass of material applied, lb/lb

H_{et} = Total monthly organic HAP emitted, lbs, as calculated according to Condition X.B.10

p = Number of different coating materials applied in a month

M_i = Mass of as-purchased coating material, i, applied in a month, lbs

q = Number of different materials added to the coating material

M_{ij} = Mass of material, j, added to as purchased coating material, i, in a month, lbs

(9 VAC 5-80-110, 40 CFR 63.3370(n)(5)(iv), 40 CFR 63.3370(k)(2)(iv))

12. The affected source shall be considered in compliance with the emission standard in Condition X.A.1 for the month if all operating parameters required to be monitored by Conditions X.B.4, X.B.6, and X.B.7 were maintained at the values established in performance testing as required by Conditions X.D.3 and X.D.4 and the total mass of organic HAP emitted by the affected source (as determined according to Condition X.B.11) is no more than 0.04 lb organic HAP per lb material applied.

(9 VAC 5-80-110 and 40 CFR 63.3370(n)(6)(ii))

13. The permittee shall develop and implement a CPMS quality control program in accordance with 40 CFR 63.8(d)(2).

(9 VAC 5-80-110 and 40 CFR 63.8(d)(2))

C. Recordkeeping

The permittee shall maintain the following records on a monthly basis:

1. Capture system parameter monitoring;
2. Data related to the Continuous Monitoring System (CMS), as follows:
 - a. All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);
 - b. The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;
 - c. The date and time identifying each period during which the CMS was out of control, as defined in 40 CFR 63.8(c)(7);

- d. The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in 40 CFR 63 Subpart JJJJ, that occurs during startups, shutdowns, and malfunctions of the affected source;
 - e. The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in 40 CFR 63 Subpart JJJJ, that occurs during periods other than startups, shutdowns, and malfunctions the affected source;
 - f. The nature and cause of any malfunction (if known);
 - g. The corrective action taken or preventive measures adopted;
 - h. The nature of the repairs or adjustments to the CMS that was inoperative or out of control;
 - i. The total process operating time during the reporting period;
 - j. All procedures that are part of a quality control program developed and implemented for CMS under 40 CFR 63.8(d);
 - k. All CMS calibration checks; and
 - l. All adjustments and maintenance performed on CMS.
- 3. The occurrence and duration of each startup, shutdown, or malfunction of the affected source or of required pollution control and monitoring equipment;
 - 4. All required maintenance performed on the air pollution control and monitoring equipment;
 - 5. Actions taken during periods of SSM (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSM plan required by Condition X.A.4;
 - 6. All information necessary to demonstrate conformance with the SSM plan when all actions taken during periods of SSM (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in the SSM plan required by Condition X.A.4;

7. Each period during which a CPMS is malfunctioning or inoperative (including out-of-control periods);
8. All required measurements needed to demonstrate compliance with 40 CFR 63 Subpart JJJJ, including, but not limited to, 15-minute averages of CPMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the permittee is required to report;
9. Control device and capture system operating parameter data in accordance with Conditions X.B.4, X.B.5, and X.B.6;
10. Overall control efficiency determination using capture efficiency and control device destruction or removal efficiency test results in accordance with Conditions X.D.3 and X.D.4;
11. Organic HAP content data for the purpose of demonstrating compliance in accordance with Condition X.D.1;
12. Volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with Condition X.D.2; and
13. Material usage and organic HAP usage on the affected source.

(9 VAC 5-80-110, 40 CFR 63.3410(a)(1)(ii) through (vi), and 40 CFR 63.10(c))

D. Testing

1. If compliance with Condition X.A.1 is determined by means other than determining the overall organic HAP control efficiency of a control device:
 - a. The organic HAP mass fraction of each coating material "as purchased" shall be determined by one of the following procedures:
 - (1) *Method 311*. The coating material may be tested in accordance with Method 311 of 40 CFR 63, Appendix A. The Method 311 determination may be performed by the manufacturer of the coating material and the results provided to the permittee. The organic HAP content shall be calculated according to the criteria and procedures below.
 - (a) Include each organic HAP determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic HAP compounds.

- (b) Express the mass fraction of each organic HAP included according to Condition X.D.1(a)(1) as a value truncated to four places after the decimal point (for example, 0.3791).
 - (c) Calculate the total mass fraction of organic HAP in the tested material by summing the counted individual organic HAP mass fractions and truncating the result to three places after the decimal point (for example, 0.763).
- (2) *Method 24.* The volatile organic content of coatings as mass fraction of nonaqueous volatile matter may be determined using Method 24 of 40 CFR 60, Appendix A and used as a substitute for organic HAP. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the permittee.
- (3) *Formulation data.* Formulation data may be used to determine the organic HAP mass fraction of a coating material. Formulation data may be provided to the permittee by the manufacturer of the material. In the event of an inconsistency between Method 311 (40 CFR 63, Appendix A) test data and the permittee's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used.
- b. The organic HAP mass fraction of each coating material "as applied" shall be determined as follows.
- (1) If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied organic HAP mass fraction is equal to the as-purchased organic HAP mass fraction.
 - (2) If solvents or other materials are added to the as-purchased coating before application to the web, the as-applied organic HAP mass fraction shall be calculated using the following equation:

$$C_{ahi} = \frac{C_{hi}M_i + \sum_{j=1}^q C_{hij}M_{ij}}{M_i + \sum_{j=1}^q M_{ij}}$$

Where:

C_{ahi} = Monthly average, as-applied, organic HAP content of coating material, i, expressed as a mass fraction, lb/lb

C_{hi} = Organic HAP content of coating material, i, as-purchased, expressed as a mass fraction, lb/lb

M_i = Mass of as-purchased coating material, i, applied in a month, lb

q = Number of different materials added to the coating material

C_{hij} = Organic HAP content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, lb/lb

M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, lb

M_i = Mass of as-purchased coating material, i, applied in a month, lb

(9 VAC 5-80-110, 40 CFR 63.3370(n)(3) and 40 CFR 63.3360(c))

2. If compliance with Condition X.A.1 is determined by means other than determining the overall organic HAP control efficiency of a control device and the permittee chooses to use the volatile organic content as a surrogate for the organic HAP content of coatings:
 - a. The as-purchased volatile organic content and coating solids content of each coating material applied shall be determined by the following procedures.
 - (1) *Method 24.* The volatile organic and coating solids mass fraction of each coating applied may be determined using Method 24 (40 CFR 60, Appendix A). The Method 24 determination may be performed by the manufacturer of the material and the results provided to O'Sullivan Films, Inc. If these values cannot be determined using Method 24, an alternative technique for determining the values shall be submitted to U.S. EPA for approval.
 - (2) *Formulation data.* The volatile organic content and the coating solids content of a coating material may be determined based on formulation data and the volatile organic content data provided by the manufacturer of the material may be relied upon. In the event of any inconsistency between the formulation data and the results of Method 24 of 40 CFR 60, Appendix A, and the Method 24 results are higher, the results of Method 24 will govern.
 - b. The as-applied volatile organic content and coating solids content of each coating material applied shall be determined by the following procedures.
 - (1) If the as-purchased coating material is applied to the web without any solvent or other material added, then the as-applied volatile organic content is equal to the as-purchased volatile organic content and the as-applied coating solids content is equal to the as-purchased coating solids content.
 - (2) If solvents or other materials are added to the as-purchased coating before application to the web, the as-applied volatile organic content shall be calculated using the following equation:

$$C_{avi} = \frac{C_{vi}M_i + \sum_{j=1}^q C_{vij}M_{ij}}{M_i + \sum_{j=1}^q M_{ij}}$$

Where:

- C_{avi} = Monthly average, as-applied, volatile organic content of coating material, i, expressed as a mass fraction, lb/lb
 C_{vi} = Volatile organic content of coating material, i, as-purchased, expressed as a mass fraction, lb/lb
 M_i = Mass of as-purchased coating material, i, applied in a month, lb
 q = Number of different materials added to the coating material
 C_{vij} = Volatile organic content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, lb/lb
 M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, lb
 M_i = Mass of as-purchased coating material, i, applied in a month, lb

- (3) If solvents or other materials are added to the as-purchased coating before application to the web, the as-applied coating solids content shall be calculated using the following equation:

$$C_{asi} = \frac{C_{si}M_i + \sum_{j=1}^q C_{sij}M_{ij}}{M_i + \sum_{j=1}^q M_{ij}}$$

Where:

- C_{asi} = Monthly average, as-applied, coating solids content of coating material, i, expressed as a mass fraction, lb/lb
 C_{si} = Coating solids content of coating material, i, expressed as a mass fraction, lb/lb
 M_i = Mass of as-purchased coating material, i, applied in a month, lbs
 Q = Number of different materials added to the coating material
 C_{sij} = Coating solids content of material, j, added to as-purchased coating material, i, expressed as a mass fraction, lb/lb
 M_{ij} = Mass of material, j, added to as-purchased coating material, i, in a month, lb
 M_i = Mass of as-purchased coating material, i, applied in a month, lb

(9 VAC 5-80-110, 40 CFR 63.3370(n)(3), 40 CFR 63.3370(k)(1)(v) and 40 CFR 63.3360(d))

3. Within 180 calendar days of December 5, 2005, the permittee shall conduct performance testing to establish the destruction efficiency of each RTO according to the methods and procedures in 40 CFR 63.3360(e)(1), 40 CFR 63.3360(e)(2), 40 CFR 63.7(e), and 40 CFR 63.7(g). During the performance tests, the permittee shall establish the operating limits required by Condition X.A.2.a according to 40 CFR 63.3360(e)(3). A site-specific test plan shall be submitted to the Director, Valley

Region, at least 60 days before the performance test is scheduled to occur (i.e., simultaneous with the notification required by Condition X.E.2). The site-specific test plan shall conform to the requirements of 40 CFR 63.7(c)(2).

(9 VAC 5-80-110, 40 CFR 63.7(a)(2), 40 CFR 63.7(c)(2), 40 CFR 63.7(e), 40 CFR 63.7(g), 40 CFR 63.3370(n)(3), 40 CFR 63.3370(k)(1)(i) and 40 CFR 63.3360(e))

4. Within 180 calendar days of December 5, 2005, the permittee shall determine capture efficiency achieved at each emission point (paint line or laminator) routed to each RTO using the procedures in 40 CFR 63.3360(f)(1), (2), or (3).

(9 VAC 5-80-110, 40 CFR 63.7(a)(2), 40 CFR 63.3370(n)(3), 40 CFR 63.3370(k)(1)(ii) and 40 CFR 63.3360(f))

5. If the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere is taken into account when determining compliance with Condition X.A.1, the permittee shall develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit the protocol to the Director, Valley Region, for approval. The protocol shall be submitted with the site-specific test plan required by Condition X.D.3. If the permittee intends to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere and demonstrate compliance according to Condition X.B.9, then the test protocol submitted shall determine the mass of organic HAP retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance shall be shown using the volatile organic matter content as a surrogate for the HAP content of the coatings.

(9 VAC 5-80-110 and 40 CFR 63.3360(g))

E. Reporting

1. The permittee shall submit to the Director, Valley Region, a semiannual compliance report that includes the following information:
 - a. Company name and address;
 - b. Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report;
 - c. Date of report and beginning and ending dates of the reporting period;
 - d. If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no Continuous Monitoring System (CMS) was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted; and

- e. For each deviation from an emission limitation (emission limit or operating limit), the report must contain the following information:
- (1) The total operating time of each affected source during the reporting period;
 - (2) Information on the number, duration, and cause of deviations (including unknown cause), if applicable, and the corrective action taken; and
 - (3) Information on the number, duration, and cause for CPMS downtime incidents, if applicable, other than downtime associated with zero and span and other calibration checks.

A copy of the report shall be provided to the U.S. EPA at the following address:

U.S. EPA Region III
Air Enforcement Branch
3AP12
1650 Arch Street
Philadelphia, PA 19103

The first and subsequent compliance reports may be submitted according to the dates established for reporting in Condition XV.C.3. The compliance report may be combined with reporting required by Condition XV.C.3 to form a single submittal. (9 VAC 5-80-110 and 40 CFR 63.3400(c))

2. The permittee shall notify the Director, Valley Region, in writing of the intention to conduct a performance test to comply with Conditions X.D.3 and X.D.4 at least 60 calendar days before each performance test is initially scheduled to begin. In the event the permittee is unable to conduct the performance test on the date specified in the notification due to unforeseeable circumstances beyond the permittee's control, the permittee shall notify DEQ as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. The notification of delay in conducting the performance test shall not relieve the permittee of legal responsibility for compliance with any other applicable provisions.

The notification shall identify the operating parameters to be monitored to ensure that the capture efficiency of the capture system and the control efficiency of the control device determined during the performance test are maintained. A copy of the notification shall be provided to the U.S. EPA at the address in Condition X.E.1. (9 VAC 5-80-110, 40 CFR 63.3400(d), 40 CFR 63.7(b), and 40 CFR 63.9(e))

3. Before the close of business on the 60th day following completion of the earliest of the compliance demonstrations (performance testing) required by Conditions X.D.3

and X.D.4, the permittee shall submit a Notification of Compliance Status report to the Director, Valley Region, that includes the following information:

- a. The methods that were used to determine compliance;
- b. The results of any performance tests, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;
- c. The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;
- d. The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in Conditions X.D.3 and X.D.4;
- e. A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and
- f. A statement by the owner or operator of the facility as to whether the source has complied with 40 CFR 63 Subpart JJJJ.

The Notification of Compliance Status shall be signed by a person meeting the criteria for responsible official, who shall certify its accuracy. A copy of the notification shall be provided to the U.S. EPA at the address in Condition X.E.1. (9 VAC 5-80-110, 40 CFR 63.3400(e) and (f), 40 CFR 63.9(h) and 40 CFR 63.10(d)(2))

4. Periodic Startup, Shutdown, and Malfunction Reporting - If actions taken by the permittee during startup, shutdown, or malfunction (SSM) of the affected source are consistent with the procedures specified in the permittee's SSM plan as required by 40 CFR 63.6(e)(3) (Condition X.A.4), the permittee shall state such information in a SSM report. If actions taken by the permittee during a SSM of the affected source (including actions taken to correct a malfunction) are not consistent with the procedures specified in the permittee's SSM plan, the permittee shall state such information in the report. Reports shall only be required if a SSM occurred during the reporting period, and they must include the number, duration, and a brief description of each malfunction which caused or may have caused the emission limitation in Condition X.A.1 to be exceeded. The report shall also include notice of any revisions made to the SSM plan within the reporting period. The SSM report shall consist of a letter, containing the name, title, and signature of a responsible official who is certifying its accuracy, that shall be submitted to the Director, Valley

Region, semiannually. A copy of the report shall be provided to the U.S. EPA at the address in Condition X.E.1. The SSM report shall be delivered or postmarked by the 30th day following the end of each calendar half. Alternatively, the SSM report may be combined with reporting required by Condition X.E.1 to form a single submittal. (9 VAC 5-80-110, 40 CFR 63.6(e)(3), 40 CFR 63.10(d)(5), and 40 CFR 63.3400(g))

5. Immediate Startup, Shutdown, and Malfunction Reports – Any time an action taken by the permittee during a SSM (including actions taken to correct a malfunction) is not consistent with the procedures specified in the SSM plan required by Condition X.A.4, the permittee shall report the actions taken for that event within two working days after commencing actions inconsistent with the plan followed by a letter within seven working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the Director, Valley Region, within two working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within seven working days after the end of the event, that contains the name, title, and signature of a responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSM plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred. A copy of the letter shall be provided to the U.S. EPA at the address in Condition X.E.1. (9 VAC 5-80-110 and 40 CFR 63.10(d)(5))

XI. Hazardous Air Pollutants from Organic Liquids Distribution (Facility-wide)

The following requirements are derived from 40 CFR 63 Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)), a copy of which has been attached. All terms used in conditions derived from 40 CFR 63 Subpart EEEE shall have the meanings as defined in 40 CFR 63.2 and 40 CFR 63.2406. The affected source is the collection of activities and equipment used to distribute organic liquids into, out of, or within the facility and is composed of: storage tanks storing organic liquids, transfer racks at which organic liquids are loaded into or unloaded out of transport vehicles or containers, equipment leak components in organic liquid service associated with pipelines (except as provided in 40 CFR 63.2338(c)(2)), storage tanks, and transfer racks, and transport vehicles while loading or unloading organic liquids at transfer racks. The requirements in this section have an effective date of February 3, 2007. "Requirements" include all control, operational, work practice, monitoring, recordkeeping, reporting, and testing requirements, as applicable.

A. Limitations

Except where this permit is more restrictive, the facility shall comply with the requirements of 40 CFR Part 63 Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)) no later than February 3, 2007.

(9 VAC 5-60-90, 9 VAC 5-60-100, 9 VAC 5-80-110 and 40 CFR 63 Subpart EEEE)

B. Reporting

1. The permittee shall submit compliance reports as follows:

- a. *First Compliance Report:* The first compliance report shall contain the information specified in 40 CFR 63.2386(c) and shall cover the period beginning February 5, 2007 and ending on December 31, 2007 and must be postmarked no later than January 31, 2008.
- b. *Subsequent compliance reports:* Subsequent compliance reports shall contain the information specified in 40 CFR 63.2386(c) and, where applicable, the information specified in 40 CFR 63.2386(d). Each subsequent compliance report shall cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each subsequent compliance report must be postmarked no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

Alternatively, the first and subsequent compliance reports may be submitted

according to the dates indicated in Condition XV.C.3. A copy of each report shall be provided to the U.S. EPA at the address in Condition X.E.1.
(9 VAC 5-80-110 and 40 CFR 63.2386)

XII. Compliance Plan

A. Description of Compliance Requirements

The permittee is subject to the compliance schedule described below. The schedule includes a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with applicable requirements for which the source will be in noncompliance at the time of permit issuance. This compliance schedule resembles and is at least as stringent as that contained in any judicial consent decree or Board order to which the source is subject. This schedule is supplemental to, and does not sanction noncompliance with the applicable requirements upon which it is based.
(9 VAC 5-80-90 I.3.c)

B. Compliance Schedule

1. O'Sullivan Films, Inc. shall provide revised emission factors for Calendar Line No. 2. These emission factors shall account for variability in product width, mass, and line speed. O'Sullivan Films, Inc. shall derive these emission factors from additional performance testing.
(9 VAC 5-80-110)
2. O'Sullivan Films, Inc. shall submit a test protocol by February 24, 2006 and shall complete testing within 45 days of DEQ approval of the test protocol. O'Sullivan Films, Inc. shall submit the test results and apply for a modification to the facility's NSR permit within 45 days of the test completion.
(9 VAC 5-80-110)
3. If additional testing yields emission factors greater than two times the emission factors derived from the June 2005 testing, DEQ reserves the right to require additional testing to determine PSD applicability.
(9 VAC 5-80-110)
4. If the modification applied for under Condition XI.B.2 includes an increase in limits on throughput or emissions or a decrease in required control efficiency, O'Sullivan shall obtain a Title V permit revision before implementing the proposed change. O'Sullivan may file an application to obtain the Title V permit revision on the same date the permit modification application referenced in Condition XI.B.2 is submitted.
(9 VAC 5-80-80 C.2)

C. Reporting Requirements

Within 14 days of the dates provided or referenced in the Compliance Schedule above, the permittee shall provide written confirmation that the milestone has been achieved. If the milestone is not achieved by the date required in the compliance schedule, the source shall, within 14 days of the date, provide a written explanation of the reason the compliance date was not met, a proposed alternate date and a statement as to the impact on the final compliance date. Extension of a compliance date may be cause for modification of this permit.

(9 VAC 5-80-110 K.4)

D. Certified Progress Report

The permittee shall submit a certified progress report semi-annually detailing the progress made toward completion of the milestones in Compliance Schedule above. The progress report must be certified by a responsible official and shall contain the following:

1. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
2. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.

(9 VAC 5-80-90 I.4 and 9 VAC 5-80-110 K.4)

XIII. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
PHTR4	Natural-gas-fired burner, Lembo oven	9 VAC 5-80-720 C		2.4 MMBtu/hr
PHTR5	Natural-gas-fired burner, Laminator 3 oven	9 VAC 5-80-720 C		1.2 MMBtu/hr
PHTR6 – 9	(4) natural-gas-fired burners, Paint Line 3 oven Zones 1 – 4	9 VAC 5-80-720 C		2 MMBtu/hr each
PHTR10	Natural-gas-fired burner, Paint Line 3 oven preheat	9 VAC 5-80-720 C		0.8 MMBtu/hr
PHTR11-14	(4) natural-gas-fired burners, Paint Line 2 oven Zones 1 – 4	9 VAC 5-80-720 C		2 MMBtu/hr each
PHTR15	Natural-gas-fired burner, Paint Line 1 dryer	9 VAC 5-80-720 C		0.8 MMBtu/hr
GEN21	Diesel emergency generator Bldg 2	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
GEN22	Diesel emergency generator Bldg 14A	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
GEN23	Diesel emergency generator Bldg 54	9 VAC 5-80-720 C		375 HP (engine), 200 kW (generator)
PUMP24	Diesel fire control system water pump	9 VAC 5-80-720 C		267 HP (engine)
ICENG1	Gas IC engine powered equipment (portable cement mixer, 2 portable welders, saw, port. generator, etc.)	9 VAC 5-80-720 C		~ < 20 HP
CLNR1-5	(5) parts cleaners	9 VAC 5-80-720 B	VOC, HAPs	
HWC1	Hazardous waste compactor	9 VAC 5-80-720 B	VOC, HAPs	
TNK-P1	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK-P2	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK-P3	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	11,732 gal
TNK-P4N	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7614 gal

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
TNK-P4S	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7614 gal
TNK-P5	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	14,500 gal
TNK-P8	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	7500 gal
TNK-P9	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	9964 gal
TNK-G13a	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	250 gal
TNK-G13b	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	250 gal
TNK-TC14	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-TC15	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-P16	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-P17	Bulk storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-TC18	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK-TC19	Bulk storage tank, solvent	9 VAC 5-80-720 B	VOC, HAPs	10,000 gal
TNK-P30	Storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-S31	Storage tank, plasticizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-S32	Storage tank, stabilizer	9 VAC 5-80-720 B	VOC, HAPs	8000 gal
TNK-HO41a	Storage tank, hot oil expansion	9 VAC 5-80-720 C	VOC, HAPs	275 gal
TNK-HO41b	Storage tank, kerosene	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-FO27	Storage tank, diesel fuel	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-FO28	Storage tank, diesel fuel	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-FO29	Storage tank, diesel fuel	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-FO1	Storage tank, fuel oil	9 VAC 5-80-720 B	VOC, HAPs	14,100 gal
TNK-FO2	Storage tank, fuel oil	9 VAC 5-80-720 B	VOC, HAPs	14,933 gal
TNK-FO3	Storage tank, fuel oil	9 VAC 5-80-720 B	VOC, HAPs	19,108 gal
TNK-FO4	Storage tank, fuel oil	9 VAC 5-80-720 B	VOC, HAPs	19,391 gal
TNK-FO40	Storage tank, diesel fuel	9 VAC 5-80-720 B	VOC, HAPs	275 gal
TNK-FO60	Storage tank, diesel fuel	9 VAC 5-80-720 B	VOC, HAPs	250 gal
TNK-V43	Storage tank, Varsol	9 VAC 5-80-720 B	VOC, HAPs	275 gal
VAC1	Large portable vacuum cleaners	9 VAC 5-80-720 B	PM, PM-10, HAPs	N/A
CROTRT1	Corona treaters, laminators	9 VAC 5-80-720 B	Ozone (as VOC)	See emission unit

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720 B)	Rated Capacity (5-80-720 C)
CROTRT2	Corona treaters, paint lines	9 VAC 5-80-720 B	Ozone (as VOC)	See emission unit
CROTRT3	Corona treaters, post embosser	9 VAC 5-80-720 B	Ozone (as VOC)	See emission unit
CROTRT4	Corona treaters, calenders	9 VAC 5-80-720 B	Ozone (as VOC)	See emission unit
RCYCL1	Vinyl recycling systems	9 VAC 5-80-720 B	PM, PM-10	N/A
R & D -001	Research and Development building (R & D is not the primary function of the facility but rather serves as a support function)	9 VAC 5-80-720 A	N/A	N/A

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

XIV. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of applicability
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	O'Sullivan's boilers were installed prior to June 9, 1989, and are therefore not subject to the standard. Also, the standard does not apply to process heaters, so the Calender 3 hot oil generator is not subject to it.
40 CFR 60 Subpart FFF	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing	Applies to rotogravure printing operations installed, modified, or reconstructed after January 18, 1983; O'Sullivan's rotogravure press was installed before the effective date and has not been modified or reconstructed so as to trigger applicability.
40 CFR 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels	Applies to VOC storage tanks having capacities greater than or equal to 19,812.9 gallons; O'Sullivan's tanks are below the applicability threshold.
9 VAC 5 Chapter 40, Part II, Article 36	Emission Standards for Flexographic, Packaging Rotogravure, and Publication Rotogravure Printing Lines (Rule 4-36)	O'Sullivan's rotogravure press (Lembo printer) is neither a packaging nor a publication rotogravure unit, so is not subject to Rule 4-36.
40 CFR 63 Subpart HHHHH	National Emission Standards for Hazardous Air Pollutants for Miscellaneous Coating Manufacturing	O'Sullivan's coating mixing operations are "affiliated operations" under 40 CFR 63 Subpart JJJJ (POWC MACT) or 40 CFR 63 Subpart KK (Printing and Publishing MACT) and are therefore exempt from Subpart HHHHH.
40 CFR 51 Subpart P	Protection of Visibility	O'Sullivan is not a "BART-eligible source" because the plant operations are not one of the 26 listed existing stationary source facility categories defined at 40 CFR 51.301.

Citation	Title of Citation	Description of applicability
9 VAC 5 Chapter 140, Part I	NO _x Budget Trading Program	O'Sullivan's combined fuel combustion equipment capacity is less than 250 mmBtu/hr and therefore O'Sullivan does not meet the definition of "NO _x Budget Unit" or "NO _x Budget Source" and is therefore not subject to the rule.

Nothing in this permit shield shall alter the provisions of § 303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to § 114 of the federal Clean Air Act, (ii) the Board pursuant to § 10.1-1314 or § 10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to § 10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

XV. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

(9 VAC 5-80-110 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.
2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.
3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.
4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.
5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in

writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C and F, 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:
 - a. The date, place as defined in the permit, and time of sampling or measurements.
 - b. The date(s) analyses were performed.
 - c. The company or entity that performed the analyses.
 - d. The analytical techniques or methods used.
 - e. The results of such analyses.
 - f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:
 - a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
 - b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

(1) Exceedance of emissions limitations or operational restrictions;

- (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,
 - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

(9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.
2. The identification of each term or condition of the permit that is the basis of the certification.
3. The compliance status.
4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.
5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
6. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the Director, Valley Region within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition XIII.C.3 of this permit.

(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the Director, Valley Region, by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Director, Valley Region.

(9 VAC 5-20-180 C)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or

inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

J. Permit Modification

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1790, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9 VAC 5-80-190 and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

L. Duty to Submit Information

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9 VAC 5-80-110 G.6)

2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
(9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;
2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;
4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and
5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(9 VAC 5-50-20 E and 9 VAC 5-40-20 E)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.

(9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.
2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.
3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.
4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)

T. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)
2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of paragraph 2 of this condition are met.
2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:
 - a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.
 - b. The permitted facility was at the time being properly operated.
 - c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
 - d. The permittee notified the Board of the malfunction within two working days following the time when the emission limitations were exceeded due to the malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F 2 b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirement under 9 VAC 5-20-180 C.
3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.
4. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.

(9 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-190 C and 9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

Y. Asbestos Requirements

The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).
(9 VAC 5-60-70 and 9 VAC 5-80-110 A.1)

Z. Accidental Release Prevention

If the permittee has more, or will have more, than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)

AA. Changes to Permits for Emissions Trading

No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(9 VAC 5-80-110 I)

BB. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110, except subsection N, shall be included to determine compliance.
2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.
3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

PAINT LINE 4 (PNT4) – Compliance Assurance Monitoring (CAM) Plan

	Indicator 1	Indicator 2	Indicator 3
Indicator	Combustion zone temperature	Work practice: periodic check of butterfly valve seal integrity	Periodic destruction efficiency testing
Measurement approach	The chamber temperature is monitored by a type-K-thermocouple.	Semi-annually, the seal integrity of the butterfly valves on the air lines leading to each of the regenerative beds shall be verified by authorized technicians to ensure no leakage.	At least once every three years, testing according to reference method 25 or 25A (40 CFR 60, Appendix A) shall be conducted to verify destruction efficiency. The integrity of the permanent total enclosure shall also be verified.
Indicator range	Greater than or equal to 1550 °F or the temperature determined during performance testing according to Condition X.D.3 to correspond to at least 98.6% destruction efficiency.	The seals and/or associated ductwork shall be repaired or replaced as needed.	Greater than or equal to 98.6% VOC destruction efficiency.
QIP Threshold	No more than six excursions below the indicator range in any semi-annual reporting period.	N/A	N/A
<u>Performance criteria:</u>			
Data representativeness	The sensor is installed in the incinerator chamber as an integral part of the incinerator design. The sensor measures temperatures from 32 to 2100 °F and has a standard tolerance of $\pm 0.75\%$ of the temperature reading. The chart recorder range is 0 to 2000 °F, with minor divisions of 20 °F.	Each valve and associated ductwork is inspected for any warping, splits, or other degradation that may affect the tightness of seal when valve is closed.	Testing shall be conducted during painting representative of normal operating conditions.
Verification of operational status	N/A	N/A	N/A
QA/QC practices and criteria	A second (redundant) thermocouple probe inserted into the incinerator chamber via a hand-held meter will verify accuracy of the thermocouple. The accuracy check will be conducted at least annually. No accuracy check is required if a thermocouple has been installed within the previous 12 months. The acceptance criterion is ± 30 °F.	The RTO manufacturer or other authorized technician familiar with the operating principles of regenerative thermal oxidation units shall conduct inspection.	Test procedures shall be as required by reference method 25 (40 CFR 60, Appendix A). Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. A test protocol shall be submitted to and approved by the Director, Valley Region, prior to testing.

Monitoring frequency and data collection procedure	Measured and recorded continuously on a circular chart recorder. Temperature is measured at 15-second intervals to determine an hourly average. Three-hour averages shall be calculated hourly as the average of the previous three hours' average.	The valve seals shall be inspected and repaired (if needed) semi-annually.	At least once every three years.
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PAINT LINES 2 & 3, PAINT KITCHEN, and LAMINATOR 3 (PL2, PL3, PK, & LAM3) – Compliance Assurance Monitoring (CAM) Plan

	Indicator 1	Indicator 2	Indicator 3
Indicator	Combustion zone temperature	Work practice: capture efficiency monitoring (continuous pressure and/or fan motor monitoring and monthly verification)	Periodic control efficiency testing
Measurement approach	The chamber temperature is monitored by a type-K-thermocouple.	As will be detailed in O'Sullivan's capture efficiency monitoring plan developed in accordance with Condition X.B.6, static pressure and exhaust fan motor operation are continuously monitored by sensors that are interlocked with paint applicators on the paint lines to prevent paint application if pressure conditions are such that adequate capture efficiency is compromised. Static pressure values are verified at least once every 30 days. Paint Kitchen exhaust fan motor operation is continuously monitored by auxiliary contacts that are interlocked with the Paint Kitchen automatic dispensing system to prevent creating a new paint batch if exhaust fan motors are inoperable.	At least once every five years, testing according to reference method 25 or 25A (40 CFR 60, Appendix A) shall be conducted to verify destruction efficiency. Testing to verify capture efficiency according to appropriate subsections of 40 CFR 51, Appendix M, Reference Method 204 (or as approved by DEQ) from each of the emission units (Paint Lines 2 & 3 (PL2 & PL3), Paint Kitchen (PK), and Laminator 3 (LAM3) shall also be conducted at least once every five years.
Indicator range	Greater than or equal to 1475 °F or the temperature determined during performance testing according to Condition X.D.3 to correspond to at least 95.0% destruction efficiency.	To be determined during initial capture efficiency testing conducted according to Condition X.D.4.	Greater than or equal to 95.0% VOC destruction efficiency achieved by RTO.. Greater than or equal to: (1) 80% capture efficiency for Paint Lines 2 & 3 (PL2 & PL3); (2) 100% capture for the Paint Kitchen (PK); and (3) 95% capture for Laminator 3 (LAM3).
QIP Threshold	No more than six excursions below the indicator range in any semi-annual reporting period.	No more than one excursion in any semi-annual reporting period in which a monthly pressure verification result is below the pressure level determined in initial testing.	N/A

<p><u>Performance criteria:</u></p> <p>Data representativeness</p>	<p>The sensor is installed in the incinerator chamber as an integral part of the incinerator design. The sensor measures temperatures from 32 °F to 2100 °F and has a standard tolerance of $\pm 0.75\%$ of the temperature reading.</p> <p>The chart recorder range is 0 to 2000 °F, with minor divisions of 20 °F.</p>	<p>Pressure differential switches are installed at various points on paint lines and associated ductwork to measure static pressure. Auxiliary contacts are installed on each exhaust fan motor for paint lines, Paint Kitchen, and associated ductwork. The differential pressure gauges measure pressures from 0.00 to 0.25 inches water (or as may be determined to be appropriate in capture efficiency testing conducted according to Condition X.D.4.</p>	<p>Testing shall be conducted during painting representative of normal operating conditions.</p>
<p>Verification of operational status</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>
<p>QA/QC practices and criteria</p>	<p>A second (redundant) thermocouple probe inserted into the incinerator chamber via a hand-held meter will verify accuracy of the thermocouple.</p> <p>The accuracy check will be conducted at least annually. No accuracy check is required if a thermocouple has been installed within the previous 12 months. The acceptance criterion is ± 30 °F.</p>	<p>Ports are provided beside each static pressure sensor to allow manual verification of the static pressure at each sensor location. Testing shall be conducted at least every 30 days during operations that are similar to conditions during the initial compliance test. All measured values greater than a percentage (to be proposed by permittee and approved by DEQ) of the value determined during initial capture efficiency testing will be considered in compliance. Measured values less than a percentage (to be proposed by permittee and approved by DEQ) of the value determined during initial capture efficiency testing shall require inspections and repair to restore the pressure level to that measured during initial testing or shall require retesting to demonstrate that the required capture efficiency for the emission point (PL2 or PL3) is met at the lower pressure value.</p>	<p>Destruction efficiency test procedures shall be as required by reference method 25 (40 CFR 60, Appendix A). Capture efficiency test procedures shall be as required by appropriate subsections of reference method 204 (40 CFR 51, Appendix M), or as approved by the Director, Valley Region. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. Test protocols shall be submitted to and approved by the Director, Valley Region, at least 30 days prior to destruction or capture efficiency testing.</p>
<p>Monitoring frequency and data collection procedure</p>	<p>Measured and recorded continuously on a circular chart recorder. Temperature is measured at 15-second intervals to determine an hourly average. Three-hour averages shall be calculated hourly as the average of the previous three hours' average.</p>	<p>Static pressures measured and exhaust fan motor operation verified continuously and static pressures verified and recorded once per 30-day period.</p>	<p>At least once every five years.</p>